Lumleian Lectures

ON THE

PATHOLOGICAL RELATIONS OF THE VOICE AND SPEECH.

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LECTURE I.—PART II.

I SHALL not weary my audience by discussing the matter in minute detail, and shall simply draw attention to some points in connexion with it which appear important or interesting. It seems to me, then, that (excluding for the present the French nasal modifications) the sixteen vowels before specified may be arranged in three tolerably distinct, yet parallel, series. In the first series I should include in successive order *a* in *past*, *a* in *pat*, *e* in *pet*, *a* in *pate*, *i* in *pit*, and *e* in *peat*; in the second series *au* in *pauper*, *o* in *pot*, *o* in *potent*, *u* in *put*, *oo* in *boot*, and *u* in *tu*; and in the third series (which I should place intermediately between the other two) *u* in *putty*, *ur* in *fur*, and *eu* in *jeune*. The vowels of the first series seem to me to be related to one another, not only in sound, but in the fact that in their utterance the lips are separated from one another in their whole extent. And the differences between them appear to depend partly on the fact that, with slight modifications which, on the whole, are of no great importance, the lips become approximated more and more closely, and the aperture between them more and more elongated, as we enunciate them in their order from the first to the last, but mainly on the fact that the tongue, which is much depressed and retracted in the utterance of *a* in *past*, becomes progressively more and more elevated and projected forwards in the utterance of the others, until in the pronunciation of *e* the dorsum of the organ leaves only a narrow channel between it and the palate, and the tip approaches within half an inch of the lower incisor teeth. The vowels of the second series seem to me to be mutually related both in sound and in the circumstance that in their enunciation the oral aperture assumes a rounded form. And the distinctive differences between them are determined mainly by the fact that the oral orifice becomes more and more contracted in all its dimensions in passing from the pronunciation of the first to that of the last, but importantly also by the fact that in this, as in the former case, the tongue, which is depressed and retracted during the utterance of the first, progressively rises towards the palate and approaches the anterior teeth as the remainder of the series are in turn pronounced. In the articulation of the vowels of the third series the labial aperture is not rounded as in the last case, or opened in its whole width as in the first case; but the lips are separated with little or no appreciable effort, and in their central portions only, as they often are in quiet respiration, or when a person is about to speak. Indeed, in the pronunciation of *ur*, which is probably effected with the least effort of all the vowels, the position of the tongue (which lies somewhat rounded on the floor of the mouth, with its tip removed about an inch from the front teeth), and the form which the oral aperture assumes, are precisely those which attend ordinary quiet respiration. This vowel I should place in the middle of its series, the *u* in *putty* occupying the first place with a somewhat wider opening of the mouth and greater depression of the tongue, and the *eu* in *jeune* occupying the last, with a much contracted oral orifice, and an elevation and projection of the tongue forwards nearly into the position which it occupies in the enunciation of *e* in *peat*.

Not only, however, have the vowels of each series affinities among themselves, but there are distinct cross relations between certain vowels of the several groups. Thus, *a* in *past*, *ur* in *fur* or *u* in *putty*, and *au* in *pauper*, are all distinctly related with one another in that for each the oral cavity is large, the tongue is retracted, and the oral aperture is freely if not widely opened. And, again, there is a specially-marked affinity between *e* in *peat*, *eu* in *jeune*, and *u* in *tu*, in the circumstance that in the utterance of all these the tongue is more markedly elevated, and the tip more nearly approximated to the incisors, than they are in the utterance of any of the other vowels. Moreover, there is a distinct affinity between their sounds.

It may possibly be objected that the sixteen vowels which I have enumerated are not all distinct vowels. It has been maintained (and I confess that I formerly held this opinion in regard to some of them) that several of these so-called vowels are merely unaccentuated or rapid utterances of others that have been more generally recognised. Thus, *a* in *pat* has been regarded as a shortened *a* in *past*; *e* in *pet* as a shortened *a* in *pat*; *i* in *pit* as a shortened *e* in *peat*; *o* in *pot* as a shortened *au* in *pauper*; *u* in *put* as a shortened *oo* in *boot*; and *u* in *putty* as a shortened *ur* in *fur*. And it may be admitted that while the so-called "long vowels" can be readily pronounced independently, the so-called "short vowels" are best distinguished from one another when their pronunciation is terminated by a consonant. There is no doubt, however, I think, that they can all be pronounced independently, and prolonged in their pronunciation without merging into any other vowel; but their characteristic sounds certainly cannot be so readily recognised under these circumstances as those of the stronger vowels. I may add that the vowel *ur* is probably the most common of all our vowels, and is certainly one of the most characteristic.

Again, it may perhaps be objected that I have omitted from enumeration certain well-recognised vowel-sounds. It is held, for example, that the *a* in *fare* is distinct from the *a* in *fate*, and an independent vowel-sound. I believe, however, that in this word, as in many other somewhat similar cases, we have to do, not with vowels, but with combinations of vowels, or diphthongs. There is, in fact, a great tendency for some of our vowels to be converted, while pronouncing them, into diphthongs. Thus the sound of *a* in *fate*, when prolonged, is usually merged into that of long *e*; and the sound of *o* in *potent*, under similar circumstances, is apt to glide into that of *oo*. And the sound of *a* in *fare* and other words that rhyme with it is not, I think, the sound of *a* in *pate*, but a sequence of the sounds of *a* in *pat* and *ur* in *fur*.

The French nasal vowels are characterised essentially by the peculiarity that, while for all other vowels the soft palate closes the aperture of communication between the nose and the mouth, in the pronunciation of these that opening remains patent, so that the emitted breath escapes partly through the nose and partly through the mouth. The four nasal vowels are apparently modifications of *a* in *past* (*dans*), *o* in *pot* (*donc*), *a* in *pat* (*fin*), and *ur* in *fur* or *u* in *putty* (*un*).

(*d*) *Consonants* differ from vowels in being unmusical sounds, or noises (as Max Müller terms them), formed by the interposition of checks or barriers to the free passage of air through the oral cavity, or at any rate by the interposition of more complete barriers than those which are formed during the evolution of the vowel-sounds; at which barriers, instead of in the larynx, the fundamental sounds of the consonants are produced. This fundamental sound in the case of some consonants is associated with laryngeal intonation or sound, while in the case of others there is absolute laryngeal silence; when present, however, it is always coloured by the characteristic resonances of the cavity or cavities which the barrier limits or divides. In the case of some of them the barrier to the transmission of air is complete, and the consonantal sound is of limited duration, and produced only or most distinctly at the moment of opening or closing the barrier; these are the explosive consonants. In the case of others the barrier to the passage of air through the mouth is complete, but the communication between the nose and mouth remains open, so that their characteristic sounds, which originate at the chink between the posterior edge of the soft palate and the back of the pharynx, through which the breath is transmitted into the nose, may be indefinitely prolonged; these are the nasal consonants or nasal continuants. In the case of others, again, the check to the passage of air through the mouth is incomplete, so that these, like the last, admit of indefinite prolongation. They comprise letters of various denominations—such as sibilants, trills, semi-vowels, and so on; but, collectively, may conveniently be termed oral continuants.

The explosive consonants are *p*, *b*, *t*, *d*, *k* and *g* (hard). In the production of the first two the barrier to the escape of breath is formed by the lips, the position of the tongue being

immaterial, provided only it does not interpose another complete check. In the production of the next two, the barrier is formed by the tongue, which is flattened out and so placed that while its apex touches the hard palate immediately behind the incisor teeth, its sides, sloping downwards and backwards, first press against the upper canines and bicuspids, then against the upper molars, and lastly against the folds extending, behind the teeth, between the upper and lower jaws. In the production of the last two the barrier is formed by the contact of the base of the tongue with the palate at the line of union of its hard and soft portions. They thus form three series, of which *p* and *b* are termed labial, *t* and *d* lingual, and *k* and *g* (hard) guttural. Of these the *p*, *t*, and *k* resemble one another in the fact that they can only be pronounced with the glottis wide open, or, in other words, with unvocalised breath. If it be attempted to utter them with laryngeal intonation, or even with that breezy laryngeal sound which forms the basis of whispered language, they become converted respectively into *b*, *d*, and *g* (hard). They may be formed, indeed, altogether independently of the breath by the sharp closure, or still better by the sharp opening, of their respective barriers, and obviously, therefore, are caused essentially, as the crack of a whip or an electric spark, by the sudden displacement of air consequent on sudden impulsive movements. Their mutually distinctive characters, however, are clearly due to the different superadded resonances taking place in the different sized and shaped resounding cavities which their respective barriers limit. Usually these sounds are produced in connexion with a rush of air from the larynx; and although (as has been shown) this rush is not essential, it no doubt improves the articulation of the letters, by making their associated resonances more distinctly audible. These letters are developed only at the moments of making and breaking contact. *B*, *d*, and *g* (hard) may be regarded as the letters *p*, *t*, and *k*, modified by the presence of laryngeal sound. They cannot be uttered as *b*, *d*, and *g* independently of it. But this sound, reinforced by resonance in the cavities behind the barriers, is almost sufficient for their production; and they may, indeed, be formed, though somewhat imperfectly, during the closed condition of the cavities, and may thus be uttered as continuous sounds so long as the limits to the distension of the cavities by the admission of air from the larynx are not transgressed. They commence, however, with the closure of their respective barriers, and terminate when they open, and are undoubtedly increased in force and distinctness by the addition of the sounds of these impulsive actions. The characteristic differences then between the labial, lingual, and guttural explosive consonants depend upon the characteristic resounding qualities of the cavities in connexion with which they are severally formed; and the characteristic differences between the several surd or voiceless explodents, and their sonant or vocal varieties, depend on the fact that the sounds upon which the letters are, as it were, moulded, are due in the former case to the impact or separation of the barriers alone, in the latter case to the sonant action of the glottis associated with that of the barriers.

The nasal consonants, *m*, *n*, and *ng*, are closely related to the labial, lingual, and guttural explosive consonants respectively. Everyone knows that if he endeavours to pronounce the words *m*outh, *n*ose, to*ng*ue, while his nares are stopped from catarrh or by artificial means, he says instead *b*outh, *d*ose, tu*g*. The only differences between the formation of the nasal consonants and that of the explosive consonants to which they severally correspond, are that in the former cases the soft palate is so arranged as to leave a narrow passage between the nose and back of the mouth, while in the latter case this passage is closed; and that in the former case the fundamental sound of the consonants results from the passage of air through the naso-pharyngeal chink, whereas in the latter case it arises in the mouth by the action of the barriers. The recognised nasal consonants are, like *b*, *d*, and *g*, sonant, and their distinctive sounds, therefore, are reinforced by the laryngeal voice. They receive, however, their specific colourings from the combined resonances of the oral and nasal cavities. The qualities which distinguish them from one another are due to the resonances of the oral cavity; those which distinguish them especially from *b*, *d*, and *g*, on the other hand, are due to the resonance of the nasal cavities. But besides the recognised forms of *m*, *n*, and *ng* (which are sonant), voiceless or surd varieties of them can be formed. These do not, so far as I know, exist either in the English or in any other language as acknowledged letters; and, indeed, from the absence of laryngeal sound and from the extreme feebleness and close resemblance among themselves of the resonances which attend their utterance, they are scarcely, if at all, distinguishable from one another.

The remaining consonants are sometimes termed oral continuants. They are all produced by the passage of the breath past, or through, an incomplete barrier, and are therefore all, like the last group, continuous. But in their utterance the septum between the nose and mouth is completely closed. Further, like other consonants, and especially like the explosive consonants, they form two parallel series—one consisting of the surd or voiceless letters, of which *f*, *th* (in *thing*), *s*, and *sh* are examples; the others of their respective sonant modifications, *v*, *th* (in *the*), *z*, and *zh* or *z* (in *azure*). The surds, as in other cases, can only be uttered with unvocalised breath, the association of breath carrying sound from the larynx converting them at once into their sonant equivalents. In the utterance of the English *f* and *v*, the parts in the interior of the mouth have the same position that they present during the pronunciation of *p* and *b*, but the lips are slightly parted, the upper teeth rest on the lower lip, and the breath is driven with some degree of force through the lower portion of the interdental spaces, and between the teeth and lip. In pronouncing *th* in *thing*, and *th* in *the*, or, as it may be more conveniently represented, *dh*, the tongue is flattened, and the margins of its upper surface are pressed against the whole semicircle of the upper teeth, its edge projecting even a little beyond into the interval between them and the teeth of the lower jaw. The sound of these letters is evolved by driving the breath through the intervals between the upper front teeth, and between these and the tip of the tongue. To form the sounds *s* and *z*, the organs of articulation must occupy almost exactly the same position that they do in the utterance of *d* and *t*. The only differences are—first, that the tip of the tongue, instead of resting against the hard palate immediately behind the incisor teeth, is slightly withdrawn from the palate in this situation, so as to leave there a narrow chink for the passage of the breath; and, second, that the labial aperture is diminished in size and somewhat modified in shape, partly in consequence of the lower lip being a little elevated and pouted, and (as in whistling) rendered concave in the mesial line, partly from elevation and arching of the middle portion of the upper lip. In order to effect the pronunciation of *sh*, and *z* in *azure* (or, as it may be more appropriately represented, *zh*), the teeth are usually brought a shade nearer together than they are in pronouncing *s* and *z*, and the lips are more obviously protruded, the oral aperture, however, presenting the same general form and size. The tongue is brought very nearly into the same position that it occupies when long *e* is sounded; but the passage between its anterior half and the corresponding portion of the palate is more contracted, in consequence of the greater degree of elevation of this part of the tongue, which organ becomes, therefore, a little less flattened and a little more cuboidal than it is during the utterance of the vowel.

The remaining oral continuants have features of more or less special interest; and I shall discuss them briefly, but in no particular order. The letter *l* presents two distinct varieties—one the ordinary *l* of our own and Continental languages, which is sonant; the other the Welsh *ll*, in Llanberis, which is unknown in English, but which is simply the voiceless form of the common *l*, and as such uttered without accompanying laryngeal sound. In order to pronounce either, the point of the tongue is pressed against the palate just behind the upper incisors, but an interval is left on either side between the tongue and the double teeth, through which the air is made to pass. But for this lateral separation of the tongue from the teeth, the position of the organs of articulation in sounding *l* is identical with the position they assume for the utterance of *t*.

The English *r* presents two very obvious varieties, the one being the trilled the other the untrilled *r*. For the former, as it is usually sounded (in the word *error*, for example), the lips and teeth being well separated, and the tongue having generally the same position as it has in the pronunciation of *t* or *s*, its tip, anterior to the front bicuspids (with which it is in contact), is stretched horizontally forwards towards the upper incisors, remaining separated from them, however, by a widish semilunar interval. Then by a very forcible expulsion of vocalised breath this edge is

thrown into slow, irregular, and very visible vibrations—slow, that is to say, in comparison with the rate of vibrations which for the most part produce musical tones. Donders has estimated them at thirty in the second. For the untrilled *r*, as it occurs in the word *rain*, the tongue is arched in such a manner that its upper surface is rendered concave from before backwards, while its tip, which is a little reverted, points to the highest part of the palatal arch. The sound of this letter is due to the passage of the breath through the narrow aperture which is left between the tip of the tongue and the palate, but in no degree, as in the other case, to coarse vibrations of the tongue. Although these two varieties of *r* are represented by the same sign, and are to a considerable extent employed indifferently in speech, it is obvious that there is a real and marked difference between them; and, indeed, the untrilled *r* has at least as close an affinity to certain vowels, to *a* in *far* and *a* in *all*, and especially to *u* in *fur*, as it has to the trilled *r*. I believe that the untrilled *r* has much the same relation to the "*ur* vocal" as the consonant *ng* has to the French nasal vowels, or (to adduce yet more apposite examples) as the consonant *w* has to the vowel *oo*, or the consonant *y* to the vowel *e*. The curious tendency which uneducated persons show to confound these several groups of sounds seems to me to be a confirmation of this peculiar relation. I need scarcely call attention to the frequency with which the untrilled *r* is dropped in conversation, and to the frequency with which it is unconsciously added to the "*ur* vocal" when this ends a word followed by another vowel, as in the combination idea-*r* of, yelle-*r* ochre, and the like. The varieties of *r* above considered are sonant, but each has its unvocalised or surd representative; and these were not improbably the aspirated *r* of the Greek alphabet. They are not English letters.

The true labial and guttural continuants are specially interesting, and, among other reasons, because they include *y* and *w*, which have been classified as semi-vowels, and have severally a very close relationship to certain vowels. By many grammarians and physiologists, indeed, they have been regarded as vowels, or perhaps rather as the primary factors of certain diphthongal sounds which it is assumed they make with the aid of the vowels which succeed them. Thus *w* is intimately related to *oo*, and *y* to long *e*; and it has been assumed that such words as *w-ail*, *w-eed*, and *w-ind* might properly be spelt *oo-ail*, *oo-eed*, and *oo-ind*; and such words as *y-acht*, *y-outh*, and *yoke*, be spelt *e-acht*, *e-outh*, and *e-oke*. It must be admitted that in passing rapidly from the sound of *oo* or *e* to that of some other vowel there is a very great tendency in the organs of articulation to utter in the one case the distinctive sound of *y*, in the other that of *w*; but that the consonantal sounds of *w* and *y* are really distinct from the sounds *oo* and *e* is obvious when we compare the sounds of *w-oo* and *y-e* with those of their supposed equivalents *oo-oo* and *ee-ee*, or when we contrast such words as *ooze* and *woos*, and *ear* and *year*. There can be no doubt, indeed, that *w* and *y* do really represent true and peculiar consonantal sounds.

The true labial continuous consonants are the English *w* and the German *w* and *v*, which latter are respectively very closely related in sound to the English *v* and *f*. In the utterance of the German varieties of *v* and *f* the lips are brought into close approximation, leaving only a longish linear chink between them, through which the breath is emitted with sufficient force to produce a manifest rustling sound. The *v* (the German *w*) is a sonant letter; the *f* (the German *v*) is its surd modification. The sound of the English vocal *w* differs from that of the vowel *oo* mainly in the facts that the fundamental vowel-sound is produced in the larynx, and receives its colouring from the oral cavity; while the distinctive sound of the consonant, though also coloured by the resonance of the oral cavity, is manufactured at the labial orifice; it differs from the sound of the German *w* in its less sibilant character, and from both vowel and consonant in its mode of production. In the pronunciation of *w* the lips have an intermediate position between that which they assume in uttering the German *w* and that which they present in sounding the vowel *oo*. They are a little less pouted, and the orifice between them is considerably narrower from above downwards than for *oo*, but the orifice is neither so narrow nor so elongated as it is for the German letter. The common English *w* is sonant, but a distinct surd variety exists, which, though common among the Irish in such words as *which* and *what*, is falling into disuse amongst Englishmen.

The true guttural continuous sounds are probably four in number. The two best known and most agreeable of the group are the German *ch*, or, as it may be preferably represented, *kh*, and our own *y*. *Kh* and *y* are, as regards their mode of formation, mere modifications of *k* and *g*; the general arrangement of the organs of articulation is almost identical in both cases; but in the utterance of *kh* and *y* the base of the tongue and the back of the hard palate, instead of being in contact, leave between them a narrow aperture by the sharp passage of the breath through which the special sounds of the consonants are produced. The sound of *kh*, as in the German *ich*, is generally considered to be absent from the English language. Its presence, however, has been recognised by several writers (and there is no doubt of their correctness) in the initial sound of such words as *hew*, which might properly be spelt *ch-y-oo*, and *huge*, and *Whewell*. As regards *y*, I feel no doubt that it is, as J. Müller, Max Müller, and several other writers maintain, simply the sonant form of the surd *ch* or *kh*. The other two guttural sounds are, I believe, the surd Scotch *ch* in *loch*, which seems to be much rougher and less musical than the German *ch*, and to be produced, as Max Müller observes, between the base of the tongue and the uvula, or further back than the German *ch*; and the sound of *g* in the German word *tage*, which is sonant and certainly related to *y*, but is rougher in sound, more guttural than it, and, like the Scotch *ch*, seems to be produced far back in the throat.

Other consonantal sounds besides those which have been considered no doubt exist or can be uttered; but they are, probably, little more than modifications of them. Thus, *p*, *b*, and *m* can each be pronounced, though with some impairment of character, with the upper teeth resting, as for *f* and *v*, upon the lower lip, or with the upper lip resting on the teeth of the under jaw. And so, again, *t*, *d*, and *n* can be uttered, with slight modification, with the tongue in the position which it assumes when *th* or *dh* is pronounced, or by bringing the tongue into contact with the roof of the mouth somewhere between the normal point of contact for *t* and that for *k*. Further, other trills can be effected besides the ordinary trilled *r*: one, for example, with the lips, which has a natural affinity to *w*, but more especially to the German *w* and *v* and to *b*; another at the back of the mouth, produced apparently between the uvula and the tongue, which is very rough and disagreeable, and is evidently specially related to the *g* in *tage*; and possibly also one due to the coarse vibration of the aryteno-epiglottidean folds.

The so-called consonant, *h*, I have reserved for special consideration. It is the spiritus asper or true aspirate, and is generally regarded as a simple unvocalised rush of air through the glottis opened to its full extent, which in our own language, and more or less in other languages, is under certain circumstances made to precede the utterance of vowel-sounds. It is also said to precede the sounds of certain consonants, as in the occasional pronunciation of *wh-ich* and *wh-at*, and in the Greek φ. In our own language the letter *h* standing at the beginning of a word or syllable usually indicates the aspirate, but when present in other situations it is either silent or has a conventional value. It need scarcely, perhaps, be added that the aspirate necessarily ceases at the moment at which the sound of the letter it ushers in commences.

A little consideration, however, will show that the letter *h* is not a mere unvocalised rush of air, but that it is an unvocalised rush of air which acquires sound and character as it passes through the mouth; and, further, that for every vowel, and indeed for every consonant, which it precedes, it is attended with a special arrangement of the oral canal, tongue, and lips—which is, in fact, that of the particular vowel or consonant with which it is associated. In other words, the aspirate which precedes an ordinary or sonant vowel is the surd, voiceless, or aspirate form of that vowel; and the aspirate which precedes a voiced or sonant consonant is the surd or voiceless representative of that consonant. In this point of view, the letter *h* placed before a vowel implies that two vowels are sounded consecutively—namely (first), the unvoiced vowel, which, by the closure of the glottis in the progress of its utterance, becomes converted into (second) its vocal equivalent, or that which alone is usually regarded as the vowel. Further, it implies that whenever a consonant is supposed to be aspirated, it simply means that its sonant form is preceded in utterance by its surd form, or in some cases, perhaps, that the surd form of the consonant is alone pronounced. Thus, in the case of the aspirated *which* or *what*, the *wh* is either the surd *w* followed by the sonant *w*,

or the surd *w* alone; and in the case of the word *hew*, which I have previously shown should be spelt phonetically by the consonant represented by the German *ch*, *y*, and the vowel indicated in English by *oo*, the sound which *h* represents is in reality that of *ch*, or the surd equivalent of the *y*, which in the pronunciation of the word follows it. I am not aware that any other consonants are aspirated in English, but all other continuous consonants admit of aspiration in the sense of having the sonant consonant preceded by its surd variety. It is thus, I think, in regard to the Welsh *ll* as ordinarily uttered, and it was probably thus that the Greek *ῥ* was pronounced. It is stated that in Sanskrit consonants were often followed by aspirates; and it need scarcely be said that, though such combinations are unknown amongst ourselves, it is just as easy to continue the pronunciation of a sonant vowel or consonant into its surd equivalent, as it is to convert in the course of its utterance a surd into its correlative sonant.

(*c*) Having now pointed out the mechanical processes by which the sounds of consonants are produced, and in some degree how consonants fall into groups, partly from resemblances in their modes of formation, partly from resemblances in sound, and partly from a combination of these conditions, it will be convenient to tabulate them, so that the affinities

TABLE I.

SCHEME OF VOWEL-SOUNDS.

French nasal.		French nasal.		French nasal.
p-A-st .. *d-AN-s*				
p-A-t .. *f-IN*		*p-U-tty* } .. *UN*		*p-O-t* } .. *d-ON-e*
p-E-t		*p-U-r* }		*p-AU-per* }
p-A-te		*g-OE-the*		*p-O-tent*
p-I-t				*p-U-t*
p-EA-t				*b-OO-t*
				t-U-toyer

letters *f* and *v* are frequently regarded as the oral continuous modifications of *p* and *b* respectively. It is clear, however, that there is a closer relation between the German *v* and *w* than there is between the English *f* and *v* and these explodents, inasmuch as the German letters, like the explosives, are formed simply with the lips. The surd and sonant forms of the English *w* are equally true labial sounds. I have therefore placed the German modifications of *f* and *v* (*v* and *w* respectively), and the English *w*, in the same linear series with *p*, *b*, and *m*; and the English *f* and *v*, which are formed by the lips and teeth, I have put in a subordinate collateral—the labio-dental—group.

Among lingual consonants, *t*, *d*, and *n* have a universally admitted affinity; and the sounds represented by *th* and *dh* are usually taken for their oral continuant representatives. But the relations of the other consonants which I have placed among the linguals have generally been less distinctly defined. I venture to regard as the true linguals those consonants in the formation of which the tip of the tongue is brought into contact or close relation with the anterior portion of the palatal arch; and as nearly allied series, first, those letters which are formed by the approximation of the tip of the tongue to the teeth; and secondly and thirdly, those which are produced by the convergence of the anterior or middle portion of the tongue to the summit of the palatal arch. The principal and most complete of these series comprises obviously *t*, *d*, and *n*; and (as having the same relation to *t* and *d* as the German *v* and *w* have to *p* and *b*), the sibilant sounds *s* and *z*, together with the consonant *l*, which has no equivalent in any of the other groups. The first of the lingual subseries is the linguo-dental, comprising the consonants *th* and *dh*, which are evidently related in character to our *f* and *v*, and in the utterance of which the tip of the tongue is applied to the upper teeth.

TABLE II.

SCHEME OF CONSONANTAL SOUNDS.

	LABIAL.		LINGUAL.			GUTTURAL.		
	Lips.	Lips and teeth.	Tongue and teeth.	Tip of tongue and palate.	Back of T. and palate.	Base of T. and palate.	Base of T. and uvula.	
Explosive consonants.	*p*	....	....	*t*	....	*k*	....	Voiceless or surd.
	B	....	....	*D*	....	*G*	....	Vocal or sonant.
Nasal continuous consonants.	*m*	....	....	*n*	....	*ng*	....	Voiceless.
	M	....	....	*N*	....	*NG*	....	Vocal.
	m-M	....	....	*n-N*	....	*ng-NG*	....	Aspirated.
Oral continuous consonants.	*w* *w* (German)	*f*	*th*	*s* *r*	*sh*	*kh* (German)	*kh*	Voiceless.
	W *W* (German)	*V*	*DH*	*Z* *R*	*ZH*	*Y*	*GH*	Vocal.
	w-W *v-W* (German)	*f-V*	*th-DH*	*s-Z* *r-R*	*sh-ZH*	*kh-Y*	*kh-GH*	Aspirated.
	,,	....	....	*ll* (Welsh)	....	....	....	Voiceless.
	,,	....	....	*L*	....	....	....	Vocal.
	,,	....	....	*ll-L*	....	....	....	Aspirated.
Trills.	Trill	....	....	.... (Trill)	....	....	(Trill)	Voiceless. Vocal. Aspirated.
Vowels of each group.	*oo*	....	....	*Ur* Vocal.	....	Long *E*.	....	

which I have endeavoured to establish may be recognised at a glance. A reference to the table will show that I have arranged consonants in three vertical groups—the labial, the lingual, and the guttural; and have placed beneath each the vowel which seems to me to have a special affinity with it. Each of the groups comprises explosive, nasal continuous, and oral continuous consonants, together with trills; of which all present (indicated by small letters) surd or voiceless, and (indicated by capitals) sonant or vocal varieties; and of which all the sonant, excepting the explosives, may, like the vowels, be aspirated, or, in other words, be associated in continuous pronunciation with their respective surd equivalents. It will be observed that of those letters for which no specific characters exist, some I have represented by the combinations of letters which commonly stand for them, while to others I have assigned combinations which may be assumed from analogy to represent them; and that the aspirated sonant letters have placed before them, in small letters, their surd equivalents, which, as I have explained, I regard as their proper aspirates.

Among labial consonants, *p*, *b*, and *m* have an easily recognised and generally acknowledged connexion; and the

The second subseries includes the untrilled and trilled *r*, and the third subseries consists of *sh* and *zh*, in which the position of the tongue approaches to that characteristic of *y* and *kh*, and of which the sounds have a very close resemblance to those of these guttural letters.

The guttural consonants, *k*, *g* (hard), and *ng*, again, are obviously in close relation; and the consonantal sounds indicated by *kh* and *y*, clearly belong to the same group. Of the harsher varieties of these continuous guttural sounds I have made a subseries.

Finally, in each series I have included trills, which I regard as mere modifications of certain letters which I have already specified.

OF the 55 deaths occurring during the first quarter of this year in the Clay Cross district, Derbyshire, 18 were attributed to scarlet fever, and the total death-rate amounted to 36 per 1000. Under such circumstances we are glad to note that the medical officer recommends the prosecution of any person who knowingly lets, without previous disinfection, a dwelling in which scarlet fever had prevailed.

Gulstonian Lectures
ON
THE LYMPHATIC SYSTEM AND ITS DISEASES.

Delivered at the Royal College of Physicians, March, 1879,

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LECTURE II.—PART II.

I PROPOSE now passing on to a brief sketch of the topographical anatomy of the lymphatic system, and shall begin with the limbs.

I. *The Lower Extremity.*

(*A*) *The Glands.*—The lymphatic glands of the lower extremity are the anterior tibial gland, the popliteal glands, and the inguinal glands.

1. The anterior tibial gland is not constant; when present it is placed at a variable height in front of the interosseous membrane, generally near its upper part. Hewson has seen it below the middle, and Meckel has found two glands in this situation. The deep lymphatics accompanying the anterior tibial vessels pass into it, and efferent vessels connect it with the popliteal glands by passing with the anterior tibial artery through the foramen in the interosseous membrane.

2. The popliteal glands are four in number. A single small gland is placed immediately beneath the popliteal fascia at the entrance of the external saphenous vein, and receives the lymphatic vessels which accompany that vein. The others are placed deeply at variable heights along the popliteal vessels, and receive the deep lymphatics of the lower extremity and the knee-joint. From these, four large trunks take their exit, accompany the femoral vessels through the adductor opening, and terminate in the deep inguinal glands.

3. The inguinal glands are divided into a superficial and a deep group, connected by vessels which pass through the saphenous opening. The superficial glands vary in number, according to Mascagni, from seven to thirteen, but they are frequently more numerous. I have often counted fifteen or sixteen, and once or twice twenty. Sometimes, however, some of them are fused together, so that they appear to be less than is here stated. They are arranged into two sets: a superior, parallel to Poupart's ligament; and an inferior, parallel to the internal saphenous vein, and extending as far as two inches below the ligament. The deep glands are only three or four in number; they occupy the crural canal, and the highest is placed in the crural ring between the femoral vein and the base of Gimbernat's ligament.

(*B*) *The Vessels.*—The lymphatic vessels which converge to the inguinal glands are very numerous, and may be thus arranged:—1. The superficial lymphatics of the lower extremity. 2. The superficial lymphatics of the buttock. 3. The superficial lymphatics of the lower half of the abdominal wall. 4. The superficial lymphatics of the male and female external genitals. 5. The superficial lymphatics of the perineum. 6. The deep lymphatics of the lower extremity.

1. The superficial lymphatics of the lower extremity arise from a fine-meshed network in the deep layers of the skin of the toes and the soles of the feet. They arise also from all other parts of the cutaneous surface, but by much smaller vessels. The plexus on the toes is very fine on their plantar and lateral aspects, but the dorsum is very sparsely supplied, except over the joints. From this network vessels pass to both sides of each toe, and from these a dorsal and a plantar trunk pass. At the metatarso-phalangeal joint these trunks communicate: either the external ones join with the internal of the contiguous toe, or the four trunks unite into one, which soon divides and joins those which are nearest to it. A large plexus on the dorsum of the foot, similar to but superficial to the venous plexus, is thus formed.

In a case which I saw at the Seamen's Hospital two years ago the arrangement of these lymphatics was as definite as in the diagram here shown. From some cause which could not clearly be ascertained, all the vessels forming the dorsal plexus were inflamed; the points of anastomosis were marked with red patches, and from the interdigital networks a clear limpid fluid, no doubt lymph, exuded during the three weeks that the man was under observation.

The superficial lymphatics of the sole are also arranged in a fine network, from which a large number of vessels proceed along the internal and external borders of the foot. The internal plantar unite into three or four trunks of large size; two join the dorsal surface, whilst one is placed over and the other behind the internal malleolus. The external plantar branches, which are less numerous, unite into two or three trunks, of which one passes in front and the other behind the external malleolus.

The other superficial lymphatics of the leg and thigh also form networks, from which trunks issue at long distances; but in front of the knee the network is again closer and the trunks more numerous. From these sources the vessels course along the limb, and gradually approach the internal saphena vein in the following manner. Those from the inner surface of the sole accompany the vein throughout; the external plantar run on the outside as high as the knee, where some cross the ligamentum patellæ, whilst others continue up the front of the thigh; the dorsal lymphatics run up the outer and front surfaces of the leg and cross the crest to the inside; and those from the posterior surface gradually gain the front by passing round either the outer or the inner side.

The chief points of interest in this arrangement are, therefore, that (*a*) each toe is embraced by lymphatics like the finger of a glove, but they are few on the dorsum; (*b*) the foot and lower part of the leg are surrounded, except behind; (*c*) from the malleoli to the groin they gradually tend to the part of the limb which is the least exposed to pressure—viz., the anterior and internal,—and so follow the venous system.

Hence it follows that every scratch of the toes and sole, however little it may be, will be an orifice for absorption, and may cause a lymphangitis; and every breach in the surface which implicates the true skin will be more dangerous between the toes and on their plantar aspect than on the dorsum, on the anterior than on the posterior surface of the leg, and on the inner than on the outer part of the thigh.

A small group of vessels which spring from the outer side of the foot, especially on its plantar surface, accompany the external saphena vein. The vessels come principally from between the muscles of the little toe, run up behind the external ankle, and in the interval between the heads of the gastrocnemius pierce the deep fascia and enter the most superficial of the glands in the popliteal space, as previously mentioned.

2. The superficial lymphatics of the buttock are classed into an external group, which come from the greater part of the gluteal surface and terminate in the external superficial inguinal glands; and an internal group, which pass round the inside of the thigh from the lower and inner part of the buttock, and from the skin around the anus, and terminate in the inferior and internal inguinal glands. Hence a boil or excoriation on the buttock will cause swelling of the external or internal inguinal glands, according to its site; and an abscess at the margin of the anus is occasionally followed by a secondary adenitis in the groin.

3. The superficial lymphatics of the lower half of the abdominal wall are divided into a lumbar group, which, after anastomosing across the middle line and with the lymphatics of the buttock and back, pass forward with the superficial circumflex iliac vein to end in the middle inguinal glands; and an anterior group, which arise below or on a level with the umbilicus, and then run downwards to Poupart's ligament and terminate in the same glands.

4. The superficial lymphatics of the external male genitals are very numerous, and come from (*a*) the scrotum, (*b*) the prepuce and skin of the penis, (*c*) the glans penis, and (*d*) the urethral mucous membrane.

No part of the cutaneous surface contains so many lymphatics as the scrotum, and they are far more numerous than the bloodvessels. They are also remarkable for their varicosity. From the close network in the skin of the scrotum, ten or twelve vessels take origin and pass across the spermatic cord to the inferior inguinal glands. Those near the median line anastomose and form one trunk, which

divides into a right and a left at the root of the penis. Hence double inguinal cancer may result from an epithelioma of the scrotum near the middle line, as in a case I saw some years ago.

The superficial lymphatics of the penis, though arising from all parts of its cutaneous covering, are particularly numerous at the attachment of the prepuce, where networks are found on both the external and internal surfaces. The vessels from these preputial networks pass into a trunk which encircles the corona glandis, and from thence to the main vessels on the dorsum. These also receive the lymphatics from the skin over the penis, and especially five or six trunks which emerge from a fine network on the under surface near the median line.

On the glans penis two networks occur—viz., one on the surface and the other deeply in the submucous tissue, so that the glans penis is completely enclosed by them. They are continuous at the meatus with the urethral network. Many vessels converge from the deeper network to the frenum, where they are joined by the urethral lymphatics. Hence it is that venereal ulcers are so common on the frenum, and are peculiarly liable to be followed by glandular enlargements. From the junction at the frenum two or three large trunks issue, and course towards the dorsum, where they also join the superficial lymphatics. There is a free communication between the lymphatics of the right and left sides. On the dorsum of the penis there is either a single trunk which bifurcates, or two lateral trunks which open into the glands of the corresponding sides. Occasionally, however, the single trunk does not bifurcate, but passes to the right or left inguinal glands. From these differences it happens that a sore on the penis may be complicated with a unilateral or with bilateral inguinal buboes, and the swelling may even be on the opposite side to the primary lesion. The main lymphatic trunks usually pass into the upper inguinal glands, but they frequently terminate in the lower set, and I have more than once seen a chancre on the prepuce, frenum, or body of the penis followed by enlargement of the inferior inguinal or so-called femoral glands.

The urethral lymphatics form a long cylindrical network throughout its extent, continuous with the lymphatics of the glans penis at the orifice, and remarkable for the large size of its vessels. As these are small in children, this enlargement, which is generally attended with varicosity, is probably abnormal. From the urethral network two branches pass through the urethral wall near the frenum, and join in the circle around the base of the glans penis. The occurrence of inguinal bubo as a sequel to urethral chancre is thus easily explained. Moreover, the urethral lymphatics are continuous with those of the vesiculæ seminales and the vasa deferentia, and the spread of a gonorrhœa to the epididymis and testicles is easily explained by the fact that a gonorrhœa speedily becomes a lymphangitis. The long duration of many cases, in spite of most careful treatment, is thus readily explained, and the so-called cases of metastasis become much less inexplicable than if we look on the disease as a mere inflammation of the mucous membrane only. The occurrence of pain in, and enlargement of, the inguinal glands clearly shows that the disease has invaded the lymphatic network of the urethra.

The superficial lymphatics of the external female genitals are also extremely numerous. There is a large network surrounding the vaginal orifice. It is spread over the inner surface of the labia majora and both surfaces of the labia minora, around the urethral orifice, over the vestibule, and on the clitoris. These vulvar lymphatics also receive vessels from the lower third or fourth of the vagina, so that a chancre in this situation is followed by an inguinal bubo. From the circumference of the network six or eight large vessels proceed on both sides to the inguinal glands. The anterior portion of the female urethra is much better furnished with lymphatics than the posterior, and these also join the vulvar group.

5. The superficial lymphatics of the perineum anastomose on the one hand with those of the buttock, and on the other with those of the scrotum or vulva, and pass along the middle of the perineum to the lower inguinal glands.

6. The deep lymphatics of the leg accompany the main vessels, and may be divided into an anterior tibial group, which, arising deeply on the inner side of the sole of the foot, forms a single trunk that accompanies the dorsal artery between the first and second metatarsal bones, and then follows the anterior tibial artery to the ham; a posterior tibial group, which begins as external and internal deep plantar, and ends also in the deep popliteal glands; and a peroneal group, which either joins the former, or passes separately into the lowest deep popliteal gland.

The origin of all these vessels is in the connective tissue between the muscles of the different regions.

It is important to point out that the lymphatics of the lower extremity which do not enter the inguinal glands are those which accompany the obturator, ischiatic, and gluteal vessels, into the pelvis. These are all deep, and arise from the muscles and deep connective tissues. The deep gluteal lymphatics always pass through one or several glands outside the pelvis, for some ten or twelve small ones are always found along this artery.

II. *The Upper Extremity.*

The lymphatic glands of the upper extremity are the supra-condyloid gland or glands and the axillary glands.

Immediately above the internal condyle of the humerus there is generally a single gland, but this is sometimes absent, or its place may be taken by two, or even three, glands of small size. It receives some of the internal superficial lymphatics, especially from the inner three fingers, and usually enlarges after an injury to any of these; but as some lymphatics pass by it without entering it, it may escape, although present. Its efferent vessels run up with the basilic vein, and enter the inferior axillary glands.

The axillary glands are very numerous and of large size. They lie in the fat of the axilla under the deep fascia, and may be divided into an internal group, on the inner wall near the long thoracic and subscapular vessels; and an external group, on the outer wall along the axillary vessels. The lymphatics which converge to these glands are the superficial and deep lymphatics of the upper extremity; those from the lumbar and dorsal regions and from the back of the neck and shoulder; and those from the front and sides of the trunk, and from the mamma.

The arrangement of the deep and superficial lymphatics so closely resembles that of the lower extremity which I have so fully described, that I shall only refer to one or two interesting points in regard to them. Some of the external vessels accompanying the cephalic vein separate from the others and enter a gland immediately below the clavicle, or they may pass over the clavicle and terminate in the lower cervical glands. Occasionally two or three glands are found between the great pectoral and deltoid muscles in the course of these external lymphatics, and when enlarged have been mistaken for tumours of a different character. This is the more likely to occur as they are not usually figured in the plates of the lymphatics. Two or three deep glands are generally found close to the brachial blood-vessels, and very rarely one or two more on the front of the forearm, in the course of the deep lymphatics; and there may be another little gland just above the umbilicus or on the seventh rib, through which some of the superficial epigastric vessels may pass. Another unusual position in which small glands are sometimes found is along the inferior costa of the scapula. One of these enlarged in a case which is mentioned by Hewson.

The lymphatics of the lumbar region are peculiar in partly passing into the inguinal glands and partly into those of the axilla. The lower and internal set are those which ascend to the axilla, whilst the upper and external pass down to the groin, so that the two groups cross like the limbs of the letter X.

The lymphatics of the back follow the lower edge of the latissimus dorsi, and are joined at the back of the scapula by those which descend from the back of the neck, so that axillary adenitis may occur from a pustule on the neck.

A noteworthy disposition of the lymphatics of the back is that many of those on the right side begin on the left of the median line and *vice versâ*. Without a knowledge of this circumstance it would be impossible to explain an adenitis in the right axilla excited by a boil about an inch to the left of the middle dorsal vertebræ, as in a case which I saw three or four years ago.

The lymphatics of the mamma belong partly to the skin and partly to the breast itself. In the nipple and under the areola is one of the finest networks in the body. From it branches pass to the subareolar plexus. The lymphatics of the gland itself are arranged in a network around each lobule, and they freely intercommunicate. The vessels issuing from the networks converge to the large subareolar plexus, from which four large trunks proceed to the axillary glands; one arising at the outside, another

curving round from the inside, a third emerging from the upper, and a fourth from the lower border of the gland. The superior and inferior trunks usually join the internal and external, so that two vessels only enter the glands on the anterior and inner axillary wall. The earlier anatomists failed to appreciate the richness of the lymphatic supply to the breast, and most modern text-books do not mention the fact, which was well known to both Mascagni and Soemmering, that some of the deep lymphatics from the inner part accompany the internal mammary vessels, and pass to the internal mammary series of glands. The extreme frequency of lymphangitis, abscess, and adenitis as a sequel to excoriations and fissures of the nipple, and to slight injuries to the gland itself, as well as the occasional supervention of an intra-thoracic mediastinal cancer on a mammary scirrhus, even when the axillary glands are not affected, as I have had more than one opportunity of observing, are readily explained by a thorough knowledge of its lymphatics.

Clinical Remarks
ON A
PAINLESS METHOD OF EXCISING THE WHOLE TONGUE.

By RICHARD BARWELL, F.R.C.S.,
SURGEON TO AND LECTURER ON SURGERY AT CHARING-CROSS HOSPITAL.

GENTLEMEN,—I would call your attention to this man, on whom I performed excision of the whole tongue nine days ago. You see that he is in excellent condition, and can already speak with considerable distinctness. He has taken walks outside the hospital, and wishes to go home, but I shall detain him till the proper dismissal day.

The disease was a large epithelioma situated as far back in the organ as the anterior pillar of the fauces, occupying chiefly the left side; that is to say, the tumour itself and the ulceration were confined to that side, yet the condition called ichthyosis extended across and some distance on the right of the raphe. Now my late colleague, Mr. Fairlie Clarke, pointed out some years ago (Med.-Chir. Trans., vol. lvii., p. 155) that this morbid state is the immediate precursor, or, indeed, the first stage of epithelioma. To take away a part of the tongue and to leave behind an ichthyotic portion would be a grave mistake. It was necessary, therefore, in this case to remove the whole breadth of the organ from a point very near the epiglottis. I desire to fix your attention upon the method I adopted, upon its ease both to surgeon and patient, and upon the absence of bleeding or external mutilation; especially as you will find in works on surgery, much used by students and practitioners, certain methods of operation described and figured which I entirely disapprove. For instance, Regnoli's operation consists in cutting away the whole floor of the mouth by incisions along the middle line and round the body of the lower jaw, then dragging the tongue through the opening down upon the front of the neck, and severing it from its base. Another method is to split soft parts and jaw from the mouth to the hyoid bone, and by dragging the parts asunder to lay bare the root of the tongue. These operations cause much hæmorrhage, are very dangerous, and produce horrible mutilation. I have no hesitation in saying that they should only be mentioned as I mention them now—namely, as relics of a past and, in this particular region, of a barbarous stage of surgery. Even the division of muscles &c. passing between the jaw, hyoid bone, and tongue, as suggested by Sir James Paget, so as to enable the surgeon to drag the last-named part out of the mouth, is quite unnecessary, because, as you have seen, the tongue can be removed *e situ* with the greatest ease as far back, if necessary, as the epiglottis; nay, if it were desirable, that valve could, as far as the mere mechanism of the operation is concerned, be removed with the tongue from the hyoid bone.

The method itself is very simple. The instruments required are a small scalpel, one or two Liston's needles, and an écraseur, or better, two écraseurs. When the patient is well under the influence of the anæsthetic, place a gag between the jaws, draw the tongue a little forward, and pass through the raphe a string, with which the organ is to be simply controlled, not dragged out of the mouth, which must be avoided. An incision, about a quarter or a third of an inch long, is now made from the hyoid bone forward, and strictly in the middle line. Thus far you will see my operation resembles Nunneley's, except that my incision is further back and shorter; but from this point the methods differ, for that surgeon passed by means of a seton-needle the loop of an écraseur chain into the floor of the mouth through the frenum of the tongue, and then dragged the part to be removed forward through the loop; and, although he could remove considerable parts by these means, he could hardly get at the whole organ, and I think his opening into the mouth too short and direct, nor did he eliminate pain.

By my method, when the raphe of the mylo-hyoid has been divided, the knife is laid aside, the genio-hyoid and genio-hyoglossus muscles are separated from their fellows by the handle of the scalpel or by the finger if the surgeon have a small finger-tip, and the root of the tongue is readily reached; but the mouth is not to be opened here. An armed Liston's needle is now placed in the wound, and the fore-finger of the other hand between the diseased side of the tongue and the jaw, as far back as it will go—viz., a little beyond the last molar tooth,—and to this point the needle is guided, taking care to keep it rather nearer to the bone than to the side of the tongue; here it pierces the mucous membrane, enters the mouth, and the thread, being released, is withdrawn, a loop of cord being left behind. The same thing is then done for the other side, except that here a loop in the mouth is unnecessary. The écraseur is now taken in hand; it must have one end of the wire detached and bent into a sort of hook at as sharp an angle as the material will bear. Tie an end of the last placed thread in the bend of this hook; then by traction on the other end, that in the mouth, draw the wire along the track of the needle. When the metal appears in the mouth just beyond the last molar tooth, pull the wire gently through till the nozzle of the écraseur is close to the supra-hyoid wound; then detach the thread and pass the wire hook into the loop of twine that enters the mouth on the diseased side of the tongue, and by gentle traction draw the metal from thus far back in the mouth, out at the hyoid wound, and attach it to the body of the instrument. Before screwing the wire tight, pass a finger along the dorsum of the tongue and ascertain its exact position. I am not afraid of its lying too far forward—it might easily, without care, sit too far back, also it might slip away from the desired place as the screw is used; therefore, having fixed the exact line along which the tongue is to be severed, I place my finger where that line intersects the raphe on the dorsum of the tongue; to it I pass the Liston's needle, letting its point project a line or two, and taking care that the wire lies behind it; by this means the écraseur can be guided exactly along the required plane. When the base of the tongue has been cut through, and the wire has come out at the wound, the loop of the same or of another écraseur is passed over the tip of the tongue into the line of incision, and the tissues, small in quantity but very vascular, which attach the tongue to the floor of the mouth, slowly cut through, when the whole organ is severed, and is removed from between the lips.

Now to recall your attention to the man himself. He lost during the operation not more than ten drops of blood, and none since. He has in front of the hyoid bone a very small scar of an already healed wound,[1] and no other external mutilation. He has lost the whole of the tongue, well clear of the disease, as you see by the specimen, and within a line or two of the epiglottis; yet he has no fever, his temperature is normal, and he takes tepid liquids without difficulty. Whenever I have asked him if he is in or has suffered any pain, he invariably answered in the negative. It seems strange, at first sight, that an organ so sensitive as the tongue can be removed without the production of a moment's pain, especially as a good deal of suffering follows the usual modes of excision; yet, when we have considered the matter together, you will see that this is a necessary result of my method of operation. By avoiding any dragging of the tongue forward, but, on the contrary, getting the écraseur wire round it *in situ*, and by

[1] The very oblique and valvular communication between this wound and the cavity of the mouth renders the passage of fluids along it almost impossible; thus obviating the production of a fistula.

keeping that wire, just previous to its entrance into the mouth, rather near though not close to the ramus of the jaw, I divide the sensory nerve of the tongue—the lingual-gustatory—close to the bone; it then retracts into its groove, and the whole wound must of necessity be insensible to pain. Therefore the man could immediately after the operation take abundance of liquid nourishment, avoided fever, and the part has rapidly healed. I would suggest, though I have not yet had an opportunity of reducing the proposal to practice, that when a less portion of the tongue has to be removed the lingual-gustatory nerve of one or both sides, according to the extent of amputation, might with advantage be divided on the ramus of the jaw.

MENTAL REFLEXES: HABIT.

By J. MORTIMER-GRANVILLE, M.D.

PHYSICAL REFLEXES are in principle fairly understood. They are known to the general physician as moods, tempers, and emotional states or disturbances, caused by the reaction of organic disease, or disorderly function, in the viscera upon the brain. This province of pathological research is too much neglected, but it is accepted as a part of the field of clinical inquiry. The practitioner in lunacy is fully alive to the importance of morbid mental conditions arising from causes located in distant parts of the body, and affecting the mind-organ either through intervening centres, when the influence is likely to be specific, and furnish a clue to the source of irritation; through the vaso-motor system, as in dreams, and those dream-states which being prolonged after the consciousness is aroused constitute a common but insufficiently recognised variety of delusional insanity; or through the sympathetic system, when the mental derangement will be more unstable, exhibit widely differing characteristics in disorderly sequence, and, unless the seat or channel of the disturbance should be detected by following up physiological connexions, as is sometimes possible, will probably remain obscure. The nature and history of "reflex insanity" are under the consideration of the alienist, though not as yet clearly made out. Meanwhile *mental* reflexes, which possess far greater interest for the general practitioner, and, in truth, give rise to many of his greatest perplexities, embarrass and spoil his best work, in some of their manifestations constituting the opprobria of the medical art, are practically overlooked or disregarded. Except in a loose and vague way—as "depression," lowering the tone of the vital energy and its operations; "excitement," quickening the pulse, and increasing the irritability in the course of disease, thereby counteracting the effort to cure; or "worry" and "nervousness" retarding recovery—the potent influences exerted reflexly by the mind upon the body are scarcely regarded as falling within the scope of pathology. This I hold to be a misfortune, not only because much that would be of value and significance to the physician is lost; but, in the absence of such light as only a just estimate of these phenomena can throw on disease, errors in diagnosis are unavoidable, and probably occur daily, which might be prevented by a clearer perception. My purpose in the present paper is to jot down a few conclusions and suggestions, the result of more than twenty years' study of the psychological aspects of disease.

No more common danger besets the physician—and in a lesser degree perhaps the surgeon—in diagnosis than that of attributing to disease or defect in the organism what is simply the result of *habit*, which in the sense I am now contemplating—namely, habit so developed as to have become an element of the physico-mental nature—is a formulated automatic action, no longer alterable by any effort of the will, or beneficially affected by surrounding influences. The law of development by use so governs the growth of particular parts of the organism, that the individual is an embodiment of habit—the accumulated habits of those from whom he has inherited the organic apparatus of his life, and of whose automatic peculiarities his body, with its gait, mannerisms, and idiosyncrasies, is the evolutional expression and physical counterpart. To what he has received from his ancestors, the individual adds the habits he has himself formed by physical and mental exercise, more particularly during the periods of greatest development—viz., childhood, youth, and adolescence. The totality of the habits of body and mind acquired and created with their mutual formative influences, the body on the mind—the tool upon the work—the mind upon the body—the work on the tool—compose the individuality. Physiologically, for example, the dexterity acquired by the habitual use of the right hand is not simply the result of a special muscular development of the particular extremity employed, and of that portion of the brain which presides over its movements, but these peculiar developments are the *effects* of the dexterity they perpetuate. Psychologically, again, the facility evinced by particular minds for certain descriptions of intellectual work is not merely the consequence of a special development of brain-capacity, but the exercise is the cause of the power by which it is performed. The organic development determines and evolves the function; and inversely, the frequently-repeated performance of any act tends to develop an appropriate organic combination; so that what seems to be the effect is really the cause. In truth, functions stand before organs in the order of development. When, in the progressive modifications of species, a particular function or act is necessary to be performed, the requisite change in the organism is effected by an induced effort to fulfil the requirement, or perhaps a new organ is called into existence by the demand upon the system, and the organic response. When, on the other hand, the need for any part of the apparatus of existence ceases, it falls into a state of atrophy, the effect of neglect to stimulate, and in time it disappears. The larger manifestations of this law are of course only possible within the compass of many generations, but the principle applies to individual development; and it is to this limited but often remarkable phase of its operations I wish to direct attention. What seem to be effects are actually causes. Pathological conditions of the organism are not unfrequently the results of perverted function, and in the study of morbid phenomena, especially those forms of disease which denote their existence by mind-symptoms, it is essential to a correct etiology, and as the basis of a scientific scheme of treatment, that the true, though sometimes inverted, relations of cause and effect should be clearly recognised. He is no physician, in any worthy sense of the term, who cures by accident; just as the castaway, who may be carried by some propitious current upon a hitherto undiscovered shore, is not an explorer.

Take a common example of the application of this principle of development to the origination of a morbid habit. Sleeplessness is a familiar and formidable affection, the cause of much anxiety to the physician and distress to his patient; and it is seldom cured, except by nature or some accident of art. It may be wakefulness originating in habit, or inability to sleep arising from causes which prevent the due performance of a natural and rhythmical function. The location of the primary fault may be in the brain, the sensory organs, the centres of sensation and motion, the vaso-motor system, or any one of the viscera acting indirectly; but wherever it lies, and however it operates—and the causes and methods of sleeplessness are perhaps as numerous and diversified as the manifestations of any known disease or disorder,—if the wakefulness has persisted through even a comparatively short period of time, a habit has been created which stands between the physician and the malady, and which it must be his first concern to destroy. This is a true view of the case, and it is the view commonly taken, but I venture to think its conditions and consequences are not adequately recognised, and therefore treatment goes astray. Habit is not merely repetition. By repeating any act or reproducing any state, a habit may be formed, but what we term habit is the expression or result of an organic condition like that which, according to the law of development above stated, is set up in an organism when the surroundings require that it should perform some new function. There is, so to say, laid in the nervous system the basis of a new automatic combination, which, gaining strength with every fresh exercise, will in process of time develop to the dignity of a special centre, while any combination or centre which is reduced to inaction by the operation of this newly-created combination will sink into a state of atrophy. The changes effected in an organism by the repetition of acts or the reproduction of states, are very rapid, and each habit formed represents a new automatic combination called into existence, while some other has fallen into disuetude, and tends to

obliteration and decay. The habit of sleeplessness, for instance, creates an automatic tendency to wakefulness, while the effective condition of the sleep-centre or combination is impaired. Nor is this all; automatic combinations are composite in their working as well as complex in their construction. It is not a habit of mere wakefulness which has been created, but of wakefulness *plus* a tendency to some particular subjective state, with proclivities to a special line or method of thought, possibly suggesting certain trains of sensory and functional activity, which in their turn being repeated, create cerebral combinations of their own, and so extend the roots and stays of the "sleeplessness." Abnormal states of function and depraved conditions of the organism resulting therefrom do not, as a rule, become inveterate until they have themselves formed relations and set up other states which help to confirm the primary derangement. Unhappily these collateral connexions are very quickly established, and they are seldom innocuous. Sleeplessness would be a less formidable evil than it is, and might be left to the final triumph of Nature, which would sooner or later assert its need of repose for the brain in due proportions and at proper times, but meanwhile the collateral activities set up are exhausting the vital force and entangling the mind in a maze of morbid tendencies and disorderly relations. Sleeplessness means more than mere unrest; it quickly gives rise to first abnormal and then distinctly morbid cerebration.

It is with the development of habit we are concerned, and sleeplessness—of the sort that seems causeless—is only an example; but we may pursue the illustration a little further. Supposing it to be ascertained that the sleeplessness had for its origin a habit of waking, or remaining awake, at the usual hour of repose, the question arises, Was this habit formed by the mind itself, or by circumstances? Because it very seldom happens that the same treatment is successful in these two totally distinct classes of cases: those caused by accident, as it were—for instance, the occurrence of a special necessity for wakefulness, such as watching by a sick bed; and those in which the mind is its own sleep-destroyer. When the compelling force of circumstances was the cause, it will possibly suffice to break the morbid rhythm—if that can be called a rhythm which consists in a succession of periods of exhausting wakefulness and brief states of imperfect sleep, from which the sufferer awakes neither refreshed nor composed, and hardly aware of having lost consciousness. Drugs that throw the organism into a state resembling sleep—but which is not sleep, though it may end in it—are commonly employed to relieve this condition; and they produce the desired result, when they are successful, by destroying the morbid automatic tendency to watching and wakefulness. The necessity for remaining on the alert, and keeping the senses responsive to external impressions, having ceased, and the habit formed lingering, the *modus operandi* of the cure consists in superseding the automatic combination, which is the basis of the habit, by throwing the nervous centres into a deep and continuous sleep. The scheme is reasonable, and often succeeds. The conditions are, however, altogether different when the habit of sleeplessness has been formed by the mind itself; when, in fact, the malady is a *mental reflex*. In this latter case, the consciousness has been engrossed with some subject, good or bad, which has caused the inhibition of the natural function of sleep, and—this is the point to which I ask special attention—in the act of willing wakefulness, and repeating the inhibition of sleep, the mind has created a new automatic combination which, just as an organ performs a function, engenders morbid wakefulness, with all the collateral and dependent evils to which we have already referred. It is not only useless, but mischievous, to treat this variety of sleeplessness as a simple habit of watching may be treated. The mental reflex has impressed on the brain, not, as I have already explained, a simple tendency to watchfulness, such as may have been required for watching beside a sick bed, but a morbid and mischievous inclination to brain-work. Thought or worry, at an unseasonable time, has created, by its reflex constructive influence, a special facility for further thought and worry of the same kind and at the same time. Each repetition of the morbid state and activity strengthens the new automatic combination, until it becomes too firmly rooted to be overthrown. When this point is reached, persistence in attempts to break it down are futile and injurious. The consciousness may be thrown into a false state resembling sleep, but the morbid automatic combination continues in a state of energy, and the result is a severance of the two parts of mind—the conscious from the unconscious—which carries the subject of such treatment a long way on the road to insanity. This is how the frequently repeated administration of hypnotics to persons who are mentally weak, or in a condition to fall readily into a state of mental disintegration, acts injuriously, and, as I believe, tends to produce insanity. The researches of Vulpian[1] have placed beyond question the fact that a retarded or diminished circulation of arterial blood in the brain may be a concomitant, but is certainly not the *cause* of sleep. Nor can sleep be produced by simply suspending the consciousness. Sleep occurs naturally, and it is a function performed by a part of the organism underlying the highest cerebral centres, which, having been thrown into a morbid state, that has become confirmed, cannot be reached by remedies which in moderate and safe doses do little more than predispose to slumber by deadening the susceptibility to external impressions. No doubt it would be possible to produce profound sleep by large doses of narcotics, but the quantity given would need to be so great as to affect the nerve-centres themselves, and the administration would require to be repeated every night for a period long enough to allow of the destruction of the morbid automatic combination. Moreover, as the drug paralyses the centre, no new combination to restore the habit of sleep could be created while this treatment was pursued, so that at the end of the enterprise the patient, if not otherwise seriously damaged, would be left in a distressed and irritable state to form anew the normal habit of sleep, and far more likely than this reform would be the revival of the old and vicious habit of wakefulness. It is needless to insist that such a plan of treatment must be scientifically admissible besides being attended with the gravest perils. The re-creation of the faculty or function of sleep is not to be accomplished by drugs, although now and again we meet with cases in which, when the morbid habit of wakefulness, even though arising from purely mental causes, is interrupted by the timely administration of a sleeping draught—putting the disorderly consciousness, as it were, under chemical restraint—good is effected; but this method of remedy is purely interruptive, and if it does not at once prove successful the experiment should not be repeated. If one or two moderate doses do not mend the evil, either the morbid habit is not to be interrupted by drugs, or the normal automatic combination has become so depraved that it cannot re-establish the rhythmical function of natural sleep, and cure by re-education in the process of sleeping alone remains.

The particular mental reflex we have been considering will stand for the type of a large group of morbid conditions of the autonomy induced by reflex operations of the consciousness. The following are some of the best known instances of this class. The derangement which I have instanced by way of illustration—namely, sleeplessness; habitual constipation, including forms of that malady commonly set down as symptoms of those two conditions, rather than diseases, "hysteria" and "epilepsy"; with the allied *state*, still more unreasonably classed as a disease, catalepsy; hysterical retention of urine, the dysphagia of insanity and the related moods and mind-states; defects of vision dependent on hallucinations below the rank of formulated delusions; many of the familiar varieties of so-called nerve disease and paralysis, which are essentially failures of the automatic power or capacity consequent upon the intervention of the consciousness in operations which, being normally carried on apart from volition, cannot be controlled, and are, in fact, interrupted by the interference of the will, as when an expert in automatic fingering concentrates his attention on the details of a muscular exercise he is unable to proceed. The errors in diagnosis under these heads are, it is to be feared, very numerous, and the mistakes in treatment to which they give rise can scarcely fail to be mischievous. These examples of the class of mental reflexes in which automatic combinations are broken up or normal functions arrested by the morbid intervention of the mind, will suffice to suggest others too numerous to mention, which compose the class. They all arise, more or less directly, from voluntary interference with automatic functions which in health are performed habitually, and therefore consensually, rather than consciously. They, moreover, possess this common quality, as viewed from the physician's standpoint—that if they are not instantly remedied by medical interruption of the morbid

[1] "Les modifications vasculaires, cardiaques, &c., ne sont qu'accessoires, adjuvantes, qu'elles soient d'ailleurs concomitantes ou consécutives; et elles ne jouent aucun rôle essentiel dans la physiologie du sommeil."—*Leçons sur l'Appareil Vaso-moteur* (Théorie du Sommeil Physiologique).

habit or disorderly state, they will only be cured, and their relief can alone be safely attempted, by a process which, in effect, amounts to re-education. Whether, by the traditional bread-pill, a hypodermic injection of simple water, or some drug—useless so far as any specific action is concerned, but potent as an agent for re-establishing a habit,—sleep is regained in a case of insomnia; or, by a periodic lenitive, the physician succeeds in restoring the action of the bowels in an obstinate case of hysterical constipation, the operation is mental in its first stage, and becomes physical only when the mind begins to operate on the lesser faculty that controls automatic action and the functions of animal life. A malady which has been induced by mental reflex can only be cured by a mental remedy, except in cases where the first impression on the mind has been of the simplest nature; as, for example, in the instance of a person who has formed a too persistent habit of wakefulness by watching, and the secondary impression on the nervous centres has also been simple, and given rise to few or no collateral morbid entanglements.

(To be concluded.)

REPORT OF A CASE OF SEVERE WOUND OF THE ABDOMEN.

BY CHARLES JAMES, L.R.C.P., M.R.C.S.,
SURGEON, R.N.

(*Communicated by the* DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.)

ON Sunday evening, July 7th, 1878, when lying off Bahia in H.M.S. *Tenedos*, I was hurriedly summoned to go on board a Russian merchant ship to see C. E——, the chief mate, who had, as I was informed, been wounded by the carpenter. I at once left, taking with me a few necessaries, and reached the ship shortly after 8 P.M. On entering the cabin I found the unfortunate mate lying on the deck, with several coils of intestine protruding from a frightful gash about ten inches long, which extended from two inches to the left of the vertebral column behind to within three inches to the left of the umbilicus in front. The wound was slightly crescentic, with the concavity upwards, and had been inflicted with a broad sharp axe. In attendance upon him was the mate of another Russian ship, who I found was possessed of some little surgical knowledge, and who was doing his utmost to prevent the further protrusion of intestines by gently pressing on the edges of the wound when the patient coughed, which he did almost incessantly, and each time so increasing the volume of the protruded bowels, despite the efforts of his attendant to the contrary.

On examining the sufferer, I found that quite three yards of small intestines had escaped from the abdomen, and that these had been wounded in two places; while the descending colon was divided transversely through its entire extent, and all the parts were begrimed with blood and fæcal matter. Of the wounds in the small intestine, one was transverse and an inch long, the other longitudinal and nearly two inches long. The mucous membrane, as is usual in these cases, was everted, overlapping the muscular and serous coats.

Having carefully cleansed the parts, I placed several points of suture in both wounds, and then experienced considerable difficulty in returning the intestines, enormously distended as they were with fæcal matter; but having accomplished this, I brought the edges of the wound in the abdominal wall together with several points of interrupted suture, excepting at the posterior part, to which I stitched the cut ends of the descending colon, forming an artificial anus. I then gave a full dose of opium (to be repeated if necessary), and had him carefully removed to his bunk. The condition of the patient during the whole time was very distressing. He was quite conscious, suffering, however, from the effects of the "shock." Pulse was quiet and weak. Skin covered with clammy sweat. The loss of blood was trifling.

At 6 A.M. on the following day, I, with the staff-surgeon of H.M.S. *Tenedos*, visited my patient; found that he had passed a fair night, and was not suffering much pain. Had passed about 10 oz. of bloody urine. Pulse 110, of fair volume. Complained of thirst. We at once decided on his removal to hospital, and during the forenoon he was carefully taken to the *Misericordia* in our cutter, and under our immediate superintendence. There the nature of the case was fully explained to the medical officers in attendance.

The case was subsequently watched by us as far as practicable. No further surgical interference was attempted, and the only treatment adopted was directed to avoid peritonitis, which on the third day seemed to be impending. The fæces from the onset were satisfactorily discharged from the artificial anus, the external abdominal wound was closing satisfactorily, and the patient progressing towards convalescence when he was last visited by us on the 22nd, fifteen days after the receipt of the injury.

I regret that our departure from Bahia prevents me from giving further particulars of the conclusion of this very interesting case, the more so as I do not remember having seen one recorded of wound of the intestine implicating its entire circumference. I think it may be concluded that the formation of an artificial anus was the only course to be taken, and gave the patient the best chance in what at first appeared to be a desperate and hopeless case.

M.R.S. *Tenedos*, Simon's Bay.

NOTES ON TWO CASES OF SYPHILITIC DISEASE OF THE LIVER.

BY SURGEON SHIRLEY DEAKIN, F.R.C.S. ENG., &c.

CASE 1.—Amir Khan, aged twenty-five, scullion in the mess of the 9th Bengal Native Infantry, was admitted to hospital, at Morar, Gwalior, on June 2nd, 1875, suffering from a considerable degree of ascites, and anasarca of feet and ankles. The patient was anæmic, weak, and scarcely able to walk. On examination the liver and spleen were found to be enlarged. He suffered from no marked degree of icterus, though the conjunctivæ were slightly discoloured. The urine was of normal colour, and contained a large quantity of albumen. There was a slight deposit which, under the microscope, was found to be crystalline; there were no casts. He was treated with iron, quinine, and iodide of potassium, twenty grains twice a day, with inunctions of the mercury biniodide ointment for his splenic affection, though no history of syphilis had been made out, and he denied the fact. Digitalis was also given as a cardiac tonic.

After being in hospital some six weeks he had an attack of hæmorrhage from the bowel. This was checked by the administration of ergot, ferric chloride, &c. Next day, the 22nd of July, he vomited a large quantity of blood, and expired the same night. Previous to the attack of hæmorrhage he had improved. He was twice tapped; the first time 13½ pints, the second 11½ pints were removed.

Post-mortem examination.—Body thin; fluid in peritoneal cavity; œdema of feet and ankles. Head not examined.—Thorax: Heart and great vessels healthy; large yellow clot in right auricle. Some fluid in pericardium and pleuræ. Lungs both healthy. Bronchi contain some frothy mucus mixed with blood. Lungs adherent to walls of thorax and to diaphragm. One large bronchial gland, an inch and a half long, consisted of a firm yellow-and-black mass.—Abdomen contained some fluid. The omentum was tough and wax-like in appearance, about ¼" thick. The left lobe of the liver was nearly equal in size to the right, and the organ extended right across the abdomen from right to left. The stomach was much enlarged, and extended across the abdomen to the right side of the thorax on a line below the liver, to which organ it was firmly adherent, as also it was to the thickened transverse colon in front and below. The abdominal viscera, excepting the greater part of the small intestine, were matted together.—Liver: Both lobes nearly equal; capsule thickened, and firmly adherent to stomach and diaphragm. Tissue very firm, of a pale yellowish-brown colour on section, excepting on right border of right lobe, where the tissue was more healthy in appearance. The bile-duct was patulous. The portal vein was lined with a dense white membrane; the ramifications of the portal vein, hepatic duct, and hepatic artery were much contracted, and there was a considerable increase in the tissue of Glisson's capsule. One large, firm, yellow gumma occupied the position of the caudate lobe, impinging on the fissure for the portal vein. Other masses were found

in the adjacent parts of Glisson's capsule, the whole number being collected into a mass about two inches square, each gumma being rounded, about the size of a horse-bean, and surrounded by a layer of firm, translucent tissue, the exterior of which exhibited numerous fine red vascular streaks. No deposit in any other part of lobes. Spleen much enlarged, ten inches long, one pound and a half in weight; capsule very firm, wrinkled, firmly adherent to abdominal parietes and to stomach; firm on section, of a pale reddish-yellow colour; did not contain any deposits. Kidneys rather small, firm, pale; capsules somewhat adherent; no deposits.—Intestines: Duodenum and upper part of jejunum healthy, covered with bilious slime. After the first two feet the small intestine began to contain a dark-red-coloured grumous mass, which soon became of a tarry colour and consistence, and filled the remainder of the small and the whole of the large intestine. Mucous membrane of small gut not thickened; no seat of vascular rupture could be made out. The exterior of the small intestines and the mesentery were of a dirty-greenish, wax-like appearance, of a uniform thickness of one-sixth of an inch. Externally the intestine presented numerous solitary elevations, varying in size from a pin's head to a pea. These were firm, roundish, and, on section, presented a yellow centre in the midst of a firm, whitish, translucent mass. No sign of ulceration.

CASE 2.—Mr. J——, a clerk in a Government office, aged about forty-five, married, and had two children aged ten and twelve years, died rather suddenly under the following circumstances:—He was a man of sedentary habits, and though moderate in the imbibition of alcohol, yet fond of the pleasures of the table. On the 15th of December, 1878, a public holiday, as he was suffering from slight jaundice and constipation, although he felt quite well, he determined to avail himself of the opportunity to stay at home and take an ounce of castor oil, which he did at 6.30 A.M. Both children had a tablespoonful of the same lot of oil at the same time, and suffered from no subsequent ill effects. At 11 A.M. the same day he felt griped and in pain. Hot fomentations and some domestic remedies were applied. Feeling no better in the evening, he wrote to his ordinary medical attendant, who sent him an anodyne mixture, which was not received until 10 P.M. During the night the abdominal pains continued, and fomentations were applied, but he died on the morning of the 16th, at 5 P.M., somewhat suddenly.

Necropsy, five hours after death.—Body and conjunctivæ jaundiced; rigor mortis firm; body very fat. As relatives were present during the examination a complete autopsy was not made. Head not examined. Both lungs much congested; old adhesions at base and apex of left lung. Large clots and fluid blood in all cavities of the heart; left ventricle much thickened; mitral and tricuspid valves presented nodules on free edges. Liver enlarged; one mass of firm yellowish nodular deposits; whole surface of organ irregular; the nodules varied in size from a pea to a small walnut; and one on the upper surface of the right lobe, more prominent than the rest, was distinctly seen to be an inspissated blood-clot encapsuled in a firm capsule, with walls one-eighth of an inch thick; the nodules extended pretty uniformly throughout the whole organ, being separated by firm fibrous bands of tissue. The peritoneum contained a considerable quantity of dirty-yellow fluid (three or four pints). Signs of acute peritonitis existed over the upper part of the cavity, implicating the upper third of the small intestine; a distinct oblique line (where coils of intestine had probably pressed against each other, and prevented the flow of the irritant fluid) marked the separation of the healthy from the inflamed portion of bowel. The duodenum was in an unhealthy condition, its walls thinned and matted to the surrounding viscera; and though there had probably been some rupture of this part during life, I could not find the spot to my own satisfaction, being doubtful whether most of a rent found had not been caused in the removal of the viscera. Spleen large; no deposits. Mucous membrane of stomach congested and blackened at the pyloric end; the peritoneal coat on the anterior surface much inflamed. Kidneys pale, large, mottled with pale patches of staining on the surface; no gummatous deposits.

Remarks.—It is unusual for syphilitic disease of the liver to cause obstruction of the portal circulation. But in Amir Khan's case a comparatively small mass of gummata, by pressing on the inferior vena cava, was sufficient to cause a marked degree of ascites, intestinal hæmorrhage, and subsequently death. A similar case is reported by the late Sir Ranald Martin ("Influence of Tropical Climates," second edition, p. 372. 1861).

Mr. J——'s case is remarkable, because for years, beside occasional constipation, he had enjoyed capital health, and this up to twenty-four hours before his death. None of his family had noticed the icterus during life. The exhibition of such a usually harmless remedy as castor oil cost him his life. Though he had been a temperate and steady man for years, there were old, though distinct, scars of buboes in both groins, and a small, deeply pigmented stain, without loss of substance, on the penis.

Allahabad.

A RARE AND FATAL COMPLICATION IN TYPHOID FEVER.

BY G. C. FRANKLIN, L.R.C.P., F.R.C.S.

ON January 10th, 1879, I was called to see a boy, aged six years, who had been unwell for about a fortnight with "slight diarrhœa, and feverishness at nights." He was suffering from well-marked typhoid, and was probably just at the commencement of the third week. Up to Jan. 17th, which would be the beginning of the fourth week, all had gone well. The evening temperature was not over 104° F., and the diarrhœa had ceased; also, he took his nourishment well.

On Jan. 19th, a considerable swelling was observed to have taken place in the left side of the face, and the breath was very foul. The mouth was opened with increasing difficulty as the swelling increased, and it was supposed that a large gum abscess or boil was being formed. On the 22nd, three days after the swelling was first noticed, four or five of the incisor teeth became loose, and in the evening of the same day were removed by the fingers, or fell out. The following day the whole of the alveolar process on the left side was bare, the gum had separated, and also a part of the alveolar process on the right side was necrosed. On the 25th, the end of the fourth week, or beginning of the fifth week of the fever, a slough began to form in the left cheek, a black spot, the size of a sixpence, spreading in the course of twenty-four hours nearly all over that side of the face. The boy died on the 26th.

From the swelling it was difficult to examine the mouth thoroughly, but it seemed probable that the whole of the superior maxilla had necrosed in the short space of five days, seven days from the first swelling.

The boy had previously been healthy, and had not been unduly exposed to the cold. The parents are healthy, and the other children remarkably so.

The rarity of such an occurrence in the course of typhoid justifies, it seems to me, its being placed on record.

Leicester.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

CASES OF OPERATION FOR NARROW STRICTURE WHERE THE AFTER-RESULT HAS BEEN NOTED.

(Under the care of Mr. BERKELEY HILL.)

THE following cases of internal urethrotomy, performed during the year 1875, give a fair indication of the remote results of operation in long-standing stricture. They also appear to show that the commonest situations of stricture are not in the bulb, but rather in the penile or antescrotal portion of the urethra. A few, moreover, illustrate the shortness of relief from the continuous tying-

in of catheters, in consequence of the speedy shrinkage which strictures so dilated frequently undergo. In all the cases where later reports could be obtained, their condition when last seen has been noted. Lastly, these reports show that, unless prevented by the periodical passage of a bougie, recontraction almost always takes place, though it is slow after incision, and may be obviated by most simple means. The particular mode of internal division practised in most of these cases, and noted as "by expanding urethrotome," or "by wedge incisor," consisted in passing through the stricture a fine split sound, between the blades of which a wedge was afterwards slid. When the blades were expanded the unstrictured part of the urethra was stretched to its full width, that width having been previously ascertained by internal measurement. When the wedge arrived at a strictured part, it entered sufficiently to set the fibres of the stricture on a tight strain; and against these tightened fibres a sharp edge was protruded from the wedge, between the halves of the split sound. The stricture fibres were thus cut while fixed and stretched by the wedge, and a large enough incision was made, though no more was cut than sufficed to restore at the contracted parts the width possessed by the healthy urethra. When the narrowness of the stricture rendered it difficult to pass the split sound, a fine guide bougie was passed through the stricture, and on to its end the sound was screwed, to be by it guided into the bladder.

CASE 1. *Long-lasting stricture; albuminous urine; continuous dilatation; speedy recontraction; internal division; good permanent relief.*—T. C——, aged sixty-five, was admitted Feb. 25th, 1875. His troubles began thirty-five years before with painful and frequent micturition. After a time he got sudden stoppage and frequent passage of blood. These symptoms continued, being sometimes better, sometimes worse. When admitted he made water every hour and a half, rather oftener by night than by day. He had three strictures: one at the meatus, the size of No. 13 French (6 or 7 English); another three inches and a half down, the size of No. 10 F. (4 or 5 E.); and another at the bulb, through which No. 4 F. (2 E.) had been passed. On March 1st No. 8 F. (2 E.) flexible catheter was tied in and kept in until the 4th, when he had a little pus, but no blood, in urine. On the 7th No. 3 F. (1 E.) was passed and tied in; on the 11th No. 8 F. (3 E.), and on the 13th No. 13 F. (7 E.), which was taken out on the 15th; but when Mr. Hill tried next day to pass the same-sized instrument, it would not enter the bladder. No. 8 F. (3 E.) could only be passed; this was tied in. On March 22nd the patient was put under chloroform, and the three strictures were divided by Civiale's urethrotome, and No. 24 F. (14 E.) catheter was introduced into the bladder, after which No. 20 F. (12 E.) flexible catheter was tied in. He suffered little or no constitutional disturbance, and the catheter was taken out on the 24th. On the 25th No. 19 F. (10 E.) was passed, and on the 31st—temperature 99·6°, pulse 66—he passed No. 20 easily himself. He left hospital on this day against advice. On April 6th the patient called at the hospital for a new catheter. He expressed himself as feeling very well, and passed easily a No. 20 F. (11 E.), which was given him. The urine was acid, and had some muco-pus floating in it.

Mr. Hill, in some remarks at the bedside, explained that vital dilatation had been used in the first instance, because the long duration of the stricture and the feeble condition of the patient rendered him an unfavourable subject for operation. But the speedy recontraction of the stricture after the wearing of catheters was discontinued rendered incision of the strictures necessary, to prevent an early return of the contraction when the patient left the hospital.

On June 12th, 1878, the patient reported he could still pass No. 20 once a month and was in good health.

CASE 2. *Multiple strictures; internal division; slow shrinkage in three years.*—H. C——, thirty-nine, was admitted April 15th, 1875. He had had gonorrhœa three times. First noticed difficulty in micturition two years and a half before. A bridle stricture three inches and a half from the meatus, and another stricture five inches from the meatus the size of No. 4 F. (1½ E.) On April 28th internal urethrotomy by the wedge incisor. Cut to No. 25 F. (14 E.), and No. 22 flexible catheter tied in. Next morning he had a rigor. Temperature 101°; pulse 120. Scalding during micturition. On the 30th he had another rigor at 9 A.M., and another at 2 P.M. On May 1st the temperature was 98°. No more rigors; passed water freely. On the 3rd No. 22 F. (12 E.) catheter was introduced. On the 6th he passed urine very well. Nos. 20 and 24 F. (12 and 14 E.) silver catheters were passed, and again on the 10th. On the 12th he left hospital. He could pass No. 23 F. bougie. On May 14th, 1878, he called; No. 18 was passed; he had passed no bougie for twelve months.

CASE 3. *Multiple strictures; internal division; three years' slow shrinkage.*—W. P——, thirty-four, admitted 20th April, 1875. Had had gonorrhœa six or seven times. About fifteen years before he had a slight stricture, which caused no inconvenience for three years. On the 21st he was examined by bulbous bougie. No. 25 F. passed three inches, and stopped; No. 17 F. (9 E.) passed four and a half inches and stopped; No. 3 F. (1 E.) rat's-tail bougie reached the bladder and was tied in. On the 22nd the patient was put under chloroform, and the stricture was cut by the wedge urethrotome; No. 25 F. (about 14 E.) passed easily. No catheter tied in. The patient had a rigor three hours after the operation, but next morning temperature was normal. On the 26th No. 24 F. sound (No. 14 E.) was passed. On the 28th he could hold his urine four or five hours. On the 29th left the hospital.

On April 2nd, 1878, he called at the hospital. He had continued to pass No. 22 F. for six months, once a week or every fortnight; then omitted it about Christmas 1876. He had passed no instrument since that time. He had had a little straining latterly. No. 17 F. passed easily into the bladder; No. 18 was tight.

CASE 4. *Stricture; continuous tying in; speedy recontraction; perineal section.*—R. W——, aged fifty-nine, was admitted on April 23rd, 1875. In the previous October the patient was in hospital for about a fortnight, when his stricture was treated by continuous dilatation to No. 12 E. When he left the hospital he was passing No. 10 E. himself, and after leaving passed No. 18 F. (No. 10 E.) every day.

Until the 20th of April he was able to pass No. 18 F., but on that day he got a chill, and was unable to pass his catheter. He was readmitted on April 23rd, when it was found that he was passing the No. 18 F. bougie into a false passage. There were also two fistulæ in the perineum, which had opened into old scars near the anus, and through which pus and urine occasionally escaped. On the 29th the temperature was 98°; pulse 78. Patient passed his urine about every hour. Nos. 7 and 9 F. (3 and 4 E.) silver catheters were passed. On May 5th the temperature was 98·6°; pulse 80. Perineal section was done, and No. 20 F. flexible catheter was tied in. On the 6th the patient had had no shivers, nor had he been sick; felt well; slept well. On the 7th the temperature was 98·6°; pulse 88. The catheter was withdrawn. Passed urine without much pain, partly by the wound and partly by urethra. On the 11th the house-surgeon passed No. 20 F. (12 E.) silver. On the 20th there was some chronic cystitis. Patient passed No. 20 F. flexible catheter, and was made to draw off his urine in that manner regularly. The wound was healed. On the 24th he was discharged, being able to pass No. 18 F. very well.

On March 31, 1876, he could reach the bladder easily with a No. 2 F. flexible catheter; but he had some chronic cystitis, for which he was trained to wash out his bladder. He looked stout and felt very well.

On May 15th, 1876, called to report himself very well, 10 to 18 F. passes regularly, and washes out every night.

CASE 5. *Tight strictures; incised; good results maintained by regular passage of bougie.*—J. M——, forty-seven years of age, admitted 29th May; fourteen years before he had gonorrhœa. On June 1st a No. 2 F. (½ E.) flexible catheter was passed to the bladder through a stricture 4½ inch from the meatus. The catheter was tied in. On the 3rd, internal urethrotomy by wedge incisor was done. After incision, No. 24 F. (14 E.) sound was passed, but not tied in. He slept well that night. Next morning—temperature 103°—patient had a rigor. Urine in the afternoon was drawn off by No. 22 silver catheter. On the 8th No. 22 F. (12 E.) was passed; urine was retained five or six hours with ease. On the 12th he was made out-patient, passing a flexible 23 F. (13 E.) twice a week.

On 15th January, 1877, exactly two years after his discharge, he called for a new bougie; No. 23 went easily. He passed his bougie about once a month.

We shall complete the cases next week.

GUY'S HOSPITAL.

CASE OF CHRONIC CYSTITIS.

(Under the care of Dr. J. BRAXTON HICKS.)

THE patient was about fifty years old, and for many months had suffered from very frequent desire to micturate, accompanied by severe straining, and most distressing pain in the bladder. The urine contained one-fourth muco-pus and blood, and was of ammoniacal odour. She had been under various treatment, and Dr. Hicks had used injection of morphia, laudanum, subacid astringent, such as chlorate of potash, muriate of iron, &c., without any permanent relief. She went out of the hospital slightly benefited; but soon returned, all the distress having recurred. She was passing urine every half-hour—much blood and mucus, and the pain was nearly intolerable. Dr. Hicks having again examined under chloroform in vain for calculus, he determined to explore the bladder. Having dilated the urethra first by Weiss's three-blade dilator, and then by the fingers, he was able to explore the whole interior of the bladder. He found nothing unusual till he came to the left side of the floor, where free bleeding occurred; the blood trickled down by the side of the finger. No substance was found indicative of malignant growth; the mucous lining only felt here rather more velvety than the rest of the internal surface. However, the bleeding continued free, and a sponge swab of solution of perchloride of iron (lesser strength) was passed and applied to the part. This failing to entirely stop the bleeding, a larger and freer one was used. Oozing still continuing, the bladder was then injected gently with the solution, which was left in for a minute or so; it was then permitted to flow away, and the bladder in a few minutes was washed out with water. A morphia suppository was introduced, and the patient removed to bed.

The next day the patient was wonderfully relieved; she had some uneasiness at first, but the incessant forcing and pain were gone. From this time she rapidly improved; at the end of a week nearly all distress was gone, and the bloody mucus had ceased to appear. In ten days she was free from all inconvenience; the urine quite clear; she could hold it for three hours, and expressed herself quite well. It should be added that there was no sign of villous disease, although it is possible.

Dr. Hicks remarked that this was an excellent instance of the capability of the female bladder to bear freer treatment than it is generally credited with, and that the ease with which the bladder is explored permits us to acquire a knowledge of its state with certainty in cases where milder treatment is found useless.

ROYAL INFIRMARY, EDINBURGH.

CASE OF SPASMODIC WRYNECK SUCCESSFULLY TREATED BY DIVISION OF THE SPINAL ACCESSORY NERVE, AFTER FAILURE OF STRETCHING.

(Under the care of Professor ANNANDALE.)

FOR the following interesting notes we are indebted to Mr. James Bennet, M.B., resident surgeon.

A young woman, aged twenty-four, was admitted into the surgical wards on February 7th, 1878. She had passed the three months immediately preceding this date in the medical wards under the care of Professor Grainger Stewart, where trial had been made of all those internal remedies likely to benefit her condition, but without any permanent improvement. The patient was employed in a power-loom factory, where, in order to follow the movements of a shuttle, it was necessary for her to keep continually turning her head from side to side, and as the handle of the machine at which she worked was at her left side, she had occasion to turn most frequently in that direction. After a spell of unusually hard work the patient began to experience a constant sensation of discomfort and uneasiness in the neck, accompanied by occasional twitching movements. The head seemed to be drawn somewhat towards the left side, and on moving it the patient found that additional effort was required to subdue the jerking movements, which tended to return it to its former position. The rotation of the head towards the left soon became more marked, and the spasmodic movements increased in violence and frequency.

On admission it was observed that, while at rest, the head assumed the position of rotation to the left, and was depressed towards the left shoulder, which was elevated to meet it. She was generally to be seen sitting with her chin supported on her left hand, looking over her left shoulder. Any movement of the head from this position at once excited the spasmodic movements. These consisted in a series of jerks, becoming more violent as they lasted, by which the head was brought round to the left from any position of rotation towards the right. Though much relief was obtained by avoiding bodily or mental effort, yet it was only during sleep that complete quiet was obtained.

The difficulty of determining the muscles primarily affected was unusually great, yet by observing during the attack the superficial muscles thrown into contraction, the position assumed by the head, and the situation to which the pain was referred, it seemed probable that the following were the groups of muscles chiefly involved:—First, the left obliquus inferior, rectus capitis posticus major, and splenius, which rotate the head towards the left; and, secondly, the left sterno-mastoid and trapezius, which depress the head towards the left shoulder and rotate it to the right. The clonic spasms appeared to be due to the alternating action of these two groups of muscles. The case seemed to be one in which overwork had induced a state of, as had been designated by Dr. Poore, "chronic fatigue or irritable weakness" in at least two opposing groups of muscles, those most used by the patient, as a result of which they had become liable to spasmodic action. The most certain means of inducing the clonic spasms was any attempt to perform the habitual movement—in other words, to use either group of affected muscles.

The explanation of the other marked feature of the disease—the permanent deformity—follows from this; it was *assumed* because by it the greatest possible amount of relaxation of both groups of muscles at one time was obtained: the rotation of the head to the left relaxed the first, and the approximation of the head to the shoulder the second group. The adoption of this position was an attempt to abstain from using either group of muscles, and so to avoid the action of the most powerful cause of the spasms.

All this naturally indicated the necessity for more complete rest, such as might be obtained by paralysing one group of muscles. In order to effect this the following operation was performed:—On February 10th, Professor Annandale made an incision from below the tip of the mastoid process on the left side, extending downwards for about three inches along the anterior border of the sterno-mastoid muscle. The border of the muscle was cleared, and some of its fibres divided transversely and turned aside. The left spinal accessory nerve was exposed and stretched, and, in case section of it should afterwards be deemed advisable, a silk ligature was applied loosely round it. The wound was then closed, the ends of the ligature being brought out at its lower angle.

No beneficial change whatever followed this procedure; accordingly, on the following day Professor Annandale removed the stitches from the wound, and by means of the silk ligature brought the nerve within reach, *divided* it, and after separating the divided ends, removed the ligature, and closed the wound. A few hours after section of the nerve had been accomplished, when the patient was able to sit up, it was found that she could move her head slowly round to the right, and could keep her face looking steadily forwards. During the healing of the wound she continued to acquire steadiness and freedom of movement of the head up to the time of her dismissal on the 16th of March.

The patient was seen in March, 1879, a year after the operation, when she was found to be free from any symptoms of the disease from which she had formerly suffered. The sterno-mastoid and trapezius muscles on the left side were then as well developed as on the right, and the appearance and movements of the neck and shoulders were absolutely normal. In the interval she had resumed her employment, and had only left it on account of her marriage—a circumstance in her social history which testifies to the completeness of the cure.

Three other cases of section of the spinal accessory nerve for spasmodic wryneck are recorded. One of these is the case of Mr. Rivington, of which no particulars have been published.[1] The others, performed by Mr. De Morgan, seem to support the explanation which has been offered of the

[1] British Medical Journal, February 8th, 1879.

present case. One was identical with the case now described, but on the opposite side. In it the right spinal accessory nerve was divided with a successful result.[2] In the other the head was rotated to the right also; here the left spinal accessory nerve was divided without curing the disease.[3]

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

MEMBRANOUS CROUP AND DIPHTHERIA.

THE ordinary meeting of this Society was held on the 8th inst., J. E. Erichsen, Esq., F.R.S., President, in the chair. There was a large attendance of fellows and visitors, the evening having been set apart for the discussion of the report presented by the sub-committee appointed to inquire into the relations between membranous croup and diphtheria. The four speakers who chiefly occupied attention were Mr. Parker, Drs. Bowles, Wilson Fox, and Sansom, the first-named alone limiting himself to the report before the Society, the others mostly dealing with the general question. The adjourned debate will be held on the 22nd inst.

The PRESIDENT said that they had met to discuss the report of the committee appointed to inquire into the Relations existing between Membranous Croup and Diphtheria. That report had already been read to the Society, and was in the hands of the fellows. He trusted that those who took part in the debate would either keep as closely as they could to the definitions of croup and diphtheria given in the report, or, if they departed from these, that they would state clearly the definitions they proposed to substitute. Unless this were done the discussion would stray into bye-channels and become confusing. The committee define croup as a clinical term signifying laryngeal obstruction occurring with febrile symptoms in children, accompanied by membrane or not, diphtheritic in nature or not. Diphtheria they regard as the anatomical definition of a zymotic disease which may or may not be attended with croup. The primary object of the committee's exhaustive, valuable, and able report had been to determine and weigh the evidence in favour of the relationship or differences between croup and diphtheria. But it included many secondary points of great importance—e. g., as to etiology (such as the prevalence of one or other disease in rural districts), and as to sequelæ, upon which latter point he trusted they would have the opinions of those specially acquainted with nervous diseases. He had ventured on these few remarks in the hope of confining the discussion within the lines laid down in the report.

Mr. R. W. PARKER, having apologised for opening the debate, thought that it would have been less invidious to have accepted the report with thanks than to have invited criticism upon it, seeing that the general subject of croup and diphtheria had been previously fully discussed before the Society. It was owing to the differences of opinion then expressed that the special committee had been appointed, the object and scope of their inquiry being "the determination of the disputed question, whether there is such a disease as 'idiopathic membranous croup'—i.e., whether membranous laryngitis exists independently of the diphtheritic poison." A discussion, however, having been invited, he ventured to point out that the above object had not been definitely attained. He had failed to find any direct answer to this very direct question, but in its place there was a summary of conclusions which did not enable him to gather what were the precise views of the committee on the crucial point. This summary was, no doubt, an excellent *resumé* of the views now held by various authorities, and, as such, it was doubtless of great value. It would have been wise to have categorically stated in which direction the balance of evidence pointed, rather than to have left the subject so unsettled that the report as it now stands can be equally well used by those who believe in the identity of the diseases, and by those who believe that croup and diphtheria are essentially distinct. After expressing his own belief in the etiological identity of croup and diphtheria, he proceeded to discuss the points taken up by the committee in their investigation. The greater relative frequency of the purely laryngeal form in sporadic cases might in part be explained by the difficulty of ascertaining the presence of membrane in the posterior nares and behind the palate, especially in young children. He had met with exudation on those sites after death, although during life the fauces had seemed perfectly free. Some of the cases tabulated in the appendices supported this view—e.g., in one case "glands behind jaw enlarged," in another, "running at the nose for a week," in a third, "tonsils ulcerated," whilst in most these were associated with acknowledged zymosis. The purely laryngeal disease, too, was often so rapidly fatal that there was little time for extension of the exudation to occur. In considering the "conditions of occurrence" the committee had obtained abundant evidence of the prevalence of croup concurrently with measles and whooping-cough. This seemed to him strongly suggestive of croup being also zymotic. Under the general head of symptomatology there were no signs distinctive of or peculiar to either form of the disease. The comparatively rare sequela of paralysis was not sufficient to differentiate the diseases; for whilst it was very often absent after the most typical cases of pharyngeal diphtheria, he had known it on one occasion to follow what was believed to be a simple sore-throat. The admittedly fatal nature of the laryngeal forms materially limited the number of cases in which sequelæ *could* occur. Dr. Hilton Fagge's objection to the theory of identity seemed to be in part based on the fact that membrane might occur after simple injury to the throat; but in the light of some other cases of purely pharyngeal diphtheria which had arisen within Guy's Hospital (see Guy's Hosp. Rep., 1877, p. 347, *et seq.*), he (Mr. Parker) was inclined to regard the traumatic cases as due to the same insanitary conditions. He was disposed to think that the number of such cases (namely, 15) was unusually large for any single hospital to count. In the digest of replies to the circular sent out by the committee (p. 63), Dr. Wilks finds it difficult to doubt the idiopathic nature of croupous (membranous) inflammation of the air-passages—a doctrine so universally held. Mr. Parker asked whether the mere prevalence of an opinion was any proof of its soundness. For his own part he did not hesitate to prefer an "extraneous cause"—a zymosis, for instance—to the ambiguous "catching cold," which was usually set down as the cause of croupous inflammation of the air-passages—even of croupous pneumonia. Niemeyer had long since pointed out the occurrence of croupous pneumonia concurrently with croup, acute rheumatism, and erysipelas. In conclusion he urged that the logical outcome of the report was to establish the identity of "idiopathic membranous croup" and diphtheria; and submitted that the *onus probandi* rested with those who would argue that they were not identical.

Dr. BOWLES (of Folkestone) differed in every respect from the last speaker. For his own part, he thought the committee did well not to give any decided opinion. It was quite right that a committee with such a responsible task to perform should not be too definite in their conclusions when they could not be absolutely so. For there was a great readiness—more especially with those engaged in active country practice—to fall into routine, and to accept higher opinions without question. Such a bending to authority barred the way to all original investigation, and it being the object of that Society to further research and not to hinder it, it was right that the question should still be left undetermined. Mr. Parker seemed to assume that a case of membranous croup, associated with a little exudation behind the palate, was necessarily diphtheritic. But what is the meaning of diphtheria? He had under his care lately a case of bedsores; one of them became coated with a false membrane. Was this diphtheritic? He had seen also in a case of chronic diabetes bullæ form, and under them a false membrane appear. Was that diphtheria? In a case in which both tonsils were removed, some false membrane formed on the raw surface without the slightest evidence of diphtheritic contagion. If in such cases the false membrane be admittedly the result of simple inflammation, what ground was there for doubting the existence of an "idiopathic membranous

[2] British and Foreign Medico-Chirurgical Review, July, 1866.
[3] THE LANCET, August 3rd, 1867.

croup"? The case related by Mr. Whitehead Reid, of membranous inflammation in the larynx from eau-de-Cologne (see Report, p. 95), was not, as Mr. Parker said, analogous to a scald; it did not produce a superficial necrosis of the mucous membrane. In cases of scald true membranous inflammation sometimes occurred. He had seen false membrane formed on a raw surface produced by a blister, and surely in such instances the exudation was the result of a simple inflammatory process. In Mr. Reid's case the membrane did *not* form at once after the inhalation of the irritant; some time elapsed, a serous discharge preceding the formation of membrane. Speaking of the influence of cold in the production of croup, Dr. Bowles said that no one would suppose that it resulted simply from direct exposure to cold. Probably some telluric and atmospheric influences play a part in all forms of "catching cold." He had related to the committee the case of a family, all of whom were suffering from laryngeal catarrh, except a child fourteen months of age, who had membranous croup. Again, he knew of a case of a coachman who, having had an attack of what was thought to be diphtheria (false membrane on the pharynx) moved from his house, which was said to be unhealthy. Next year he had a similar attack, although he had changed his abode, and was living under different conditions. He suffered again a third year. In this case exposure to cold seemed to be the only prevailing cause. Lastly, no conclusions could be drawn from the nature of the membrane being the same in the two cases. For whether due to diphtheria or not, it depended on an inflammatory process; and it would be as rational to expect to distinguish between a scale from syphilitic and one from common psoriasis, as to discriminate a membranous exudation due to diphtheria from one due to simple inflammation. Dr. Bowles hoped the Society would leave the question still open, and not stifle original thought throughout the country.

Dr. WILSON FOX thought that the committee had very faithfully and with great ability performed what the Society had desired. They had collected all the information in their power, and had given a scientific conclusion founded on the evidence before them. He felt, for his own part, some diffidence in entering on the discussion, as he had no fresh matter to adduce; but he thought it desirable to point out some difficulties in accepting what appeared to him to be the propositions advanced by Mr. Parker. The real question was whether membranous exudations could form on the upper air-passages apart from the specific disease, diphtheria. He would protest against any notion of identity between diphtheria and the so-called croupous pneumonia. The pneumonia occurring in diphtheria differed materially from the ordinary acute form of this disease. All that was common to pneumonia and to croupal false membrane was a fibrinous exudation enclosing leucocytes and epithelial cells. It could not, of course, be maintained that fibrinous exudations were necessarily of zymotic origin; and though he thought it highly probable that some cases of acute pneumonia may originate in this manner, he would hesitate, until further proof, in accepting the opinion that such a mode of origin was the universal one. As regarded the mucous membranes of the air-passages, though he had no personal knowledge of a membranous croup of the larynx apart from diphtheria, he thought it well to recall to the Society that such membranes could form in the bronchi under circumstances which put zymosis out of the question, as in chronic plastic bronchitis. They also occurred in acute bronchitis, and they could be produced by the injection of ammonia into the trachea of the lower animals.[1] The false membranes under all these circumstances were not *per se* distinguishable from that originating in the specific disease, diphtheria. The real difficulty in proving that fibrinous exudations limited to the trachea had a different origin lies in excluding the possibilities in each individual case of the presence of the causes of diphtheria, for as these might exist in any house in the form both of infected air and water, their absolute negation, as in some other forms of zymotic disease, became a matter of extreme difficulty.

Mr. HOLMES had been surprised at Mr. Parker's criticism on the report, which he had accused of indefiniteness in its conclusions. He (Mr. Holmes) would quote two sentences, showing that this charge could not be sustained. On page 3 the committee say: "The object and scope of the inquiry may be briefly defined as the determination of the disputed question, whether there is such a disease as 'idiopathic membranous croup'—i.e., whether membranous laryngitis exists independently of the diphtheritic poison, and whether, if so, there are any criteria by which it can be distinguished clinically or pathologically." On page 33 they say: "Thus croup may be membranous or not membranous, due to diphtheria or not so." Was it possible in the English language to formulate more clearly and concisely an answer to the question put—an answer which distinctly says that membranous croup and diphtheria, although sometimes associated, may occur independently. This conclusion fully accorded with his own opinion.

Dr. J. M'INTYRE (of Odiham) added his testimony (after many years of practice, and after a careful consideration of the arguments of those holding the opposite views) in favour of the existence of membranous croup apart from diphtheria. He believed that in croup we have a distinct disease, one purely local in character; in diphtheria, another distinct disease, a "blood-cachexia," with local manifestations. In his own family three sisters and one brother had died from croup, but at different times. When one was ill the others living in the same room, and under the same conditions, did not fall ill, the fatal cases occurring at intervals of two years. His only surviving sister had had croup in infancy, for which leeches were applied, and she recovered.

Dr. SANSOM said that he had to thank the committee for what he considered a very valuable and judicious report. It was much better that no final opinion had been expressed and no doctrine formulated. Nevertheless, it appeared to him that the conclusion had been forced upon the majority of the members of the committee that there is a plurality of causes for the condition known clinically as croup. This was the view which he himself held. He could not agree with Mr. Parker that the *onus probandi* should fall on those who hold this opinion in opposition to those who assert that croup is diphtheria of the air-passages. The latter is an *exclusive* doctrine, to establish which requires the rigid and protracted application of the laws of evidence. The inference that because laryngo-tracheal croup prevails at the time of other zymotic diseases, therefore croup is diphtheria, appeared to him to be a violent *non sequitur*. Like reasoning would tend to prove the identity of all zymotic diseases. There are zymoses and zymoses. He was not at all prepared to deny that many such might be the exciting causes of croup. So far from this view supporting the theory of diptheritic causation, its tendency was just the opposite. The argument he would use would be thus expressed: Croup is the result of diverse forms of inflammation of the trachea and larynx, and is initiated by various causes; these causes may be catarrhal, but are more frequently zymotic. The experience which he had chiefly at the North-Eastern Hospital for Children tended to this conclusion. There was strong evidence that membranous croup might be one of the modes of evolution of a general septicæmia. In the case of a child who, after suffering for nearly three months with sore-throat, vomiting, gastralgia, broncho-pneumonia, pleuritis, and localised empyema, croup set in suddenly, and there was found at the autopsy a false membrane lining the trachea, with much pus, and caseating glands in the neck. He considered that tracheo-laryngitis due to septic poisoning might be the explanation of many cases of secondary croup — of croup following measles, for example,—the sepsis not being specifically diphtheritic. Again, the evidence went to prove that the intensity of the symptoms of croup is not proportionate to the amount of obstruction by false membrane. The records of the North-Eastern Hospital for Children show a relatively larger proportion of cases having a clinical resemblance to croup in which no false membrane was found than those in the tables of the report. In this class were eight cases with four deaths. [Details were here given of three fatal cases, apparently due to sepsis, but in which no membrane was found after death.] In the class of cases in which false membrane was manifest it seemed that the severity of the phenomena of croup was as pronounced in cases which presented but a few shreds as in those in which there was considerable blocking of the trachea. The cases in which the origin was considered to be diphtheritic were fatal. So far as experience and also experiment teach, he considered the conclusion to be that the clinical condition known as croup is due to the

[1] Dr. Fox desires also to call attention to the fact that other septic matters may give rise to false membranes in the mucous membranes of the air-passages. Thus they are found in the bronchi in the neighbourhood of suppurating tubercular cavities, and they are produced in putrid bronchitis and bronchiectasis, while Leyden and Jaffe have shown that they may be caused by the injection of fungi into the trachea.

operation of many causes. The term "croup" conveniently groups a class of cases having a number of symptoms in common, and may be used with advantage—though not to imply a common causation,—just as phthisis is used to denote many forms of destructive disease of the lung. Croup may be due to a laryngo-tracheal inflammation excited by irritants, and giving rise to the formation of a pseudo-membrane, as in the case which forms so interesting a sequel to the report, and as in the direct experiments cited by Dr. Wilson Fox and by Weigert (in Virchow's *Archiv*, 1877, p. 461); or it may be the result of a tracheitis due to septic poisoning, of which diphtheritic croup is one form. Some forms of croup, however, are unattended by the presence of false membranes, and are probably due to a laryngo-tracheitis attended with paresis of the abductor muscles of the vocal cords.

The adjournment of the debate was then moved by Mr. Hutchinson and seconded by Dr. Geo. Johnson.

PATHOLOGICAL SOCIETY OF LONDON.

Lardaceous Disease.—Hypertrophy of the Heart.—Penetrating Wound of the Heart.—Addison's Disease.

THE ordinary meeting of this Society was held on the 15th inst., Mr. Bryant, V.P., in the chair. The debate on lardaceous disease was concluded, Dr. Dickinson speaking at length upon the subject, in reply to some of the criticisms advanced at the previous meeting. He also entered more fully into the general question than in his opening speech. Among the specimens shown was a remarkable one of Addison's disease by Dr. Leech, of Manchester.

In the course of the evening the chairman announced that the Council had decided (in consequence of the large amount of communications promised) that there should be an extraordinary meeting on April 29th.

LARDACEOUS DISEASE.

Dr. RALFE wished to draw the attention of the Society to the fact that iodine not only gives with fibrin treated with dilute hydrochloric acid the deep brown-red stain which is held to be the characteristic reaction of lardacein, but also with ordinary fibrin, and with alkali-albumin, or casein. He exhibited specimens of ordinary albumin, acid albumin or syntonin, alkali albumin or casein, and pure unaltered blood fibrin, all treated with iodine, and all showing, with the exception of the ordinary albumin, an equal degree of staining with iodine. This fact he thought was of considerable importance, as it shows that no special reliance is to be placed on the iodine reaction as indicating the presence of lardacein, its development merely denoting the presence of an albumin other than ordinary albumin; whilst the fact of the red colour being developed equally with alkali as with acid albumin showed that the reaction was not caused by the removal of alkali. Dr. Ralfe had been surprised that during the debate so little prominence had been given to the nature of the fatty changes occurring in the organs in the disease. Are these fatty changes a part of an original degenerative process, or only the result of an impaired condition of the arteries? The character of the fatty matter, both physically and chemically, was distinct from that produced by retardation or impairment of blood supply in other pathological conditions. Dr. Stephen Mackenzie had drawn attention to the hyaline degeneration of the interior of small arteries in certain acute febrile diseases, and intimated that though the material gave no definite reaction with iodine, its occurrence might throw some light upon lardaceous degeneration as being associated with alterations in the blood. This suggestion was a valuable one, for it might be the difference between the hyaline and waxy change was only one of degree, the hyaline being the first step in the degenerative process. Dr. Ralfe could confirm Sir J. Fayrer's statement of the occurrence of lardaceous disease apart from suppuration, as an occasional result of tropical malarious disease, a notable instance being that of an old Greenwich pensioner, aged ninety, who died from sheer old age in the Seamen's Hospital, who for years was known to have considerable enlargement of the liver and spleen, which on post-mortem examination were found to have undergone lardaceous change. All his other organs seemed healthy. No scars of old abscesses or bone disease, and no evidence of syphilis. He had served many years on the West Coast of Africa and in the West Indies, and had suffered from ague.

Dr. IRVINE suggested that the failure of the iodine test at post-mortem examinations might be due to the presence of ammonia, from decomposition, producing a colourless compound with the iodine. He had found specimens which gave the reaction very slightly, if at all, at the post-mortem, to yield it abundantly after being kept in spirit. Speaking of the blood changes, he mentioned a case in which there was a history of prolonged suppuration, where there was a large excess of white corpuscles, so that the case was thought to be one of leukæmia. The lardaceous changes were very marked. He showed specimens of fatty degeneration succeeding to lardaceous disease in the liver, and expressed himself in favour of the view which regards the change as an infiltration and not a degeneration, supported as it was by the fact that after surgical operations and the arrest of suppuration, lardaceous organs diminished in size and albumen disappeared from the urine.

Dr. CARRINGTON had inquired into the question of the change in syphilis being general or localised to gummata, and of thirty-six cases in Guy's Hospital during the past twenty-four years of syphilis fatal from lardaceous disease with no suppuration or bone affection, he found that in four there were four organs lardaceous; in thirteen, three organs; in twelve, two organs; and in seven, one organ only. There was no connexion between the presence of gummata in an organ and the lardaceous change. These figures proved that lardaceous disease of syphilitic origin is a general change.

Dr. DICKINSON, in reply, said that he agreed with the last speaker, that in syphilis lardaceous disease is general, although gummata may give the reaction. He expressed his especial thanks to Drs. Gairdner and Wilks, and to the President, for their remarks. Had time allowed him to enter into the history of the question, he would have had to assign a prominent place to the researches of Dr. Gairdner, who so early as 1851, in conjunction with Drs. Sanders and Bennett, had taken views upon the subject far more in accordance with modern doctrine than were the theories advanced subsequently in Germany. Passing to the remarks made in the course of the discussion, he spoke first upon the fact alluded to by Dr. Greenfield, that the iodine reaction is not always given by casts proceeding from the lardaceous kidney. He himself had examined this, not only with regard to casts shed in the urine, but to those *in situ* in the renal tubes, and had found that casts sometimes give the reaction, but not often. An extremely lardaceous condition of casts was exceptional, but when they *are* affected the change is undoubted. He had no experience of aniline violet as a staining reagent for lardaceous material, but he had tried nearly every other aniline colour with no result. Indigo blue is a very good test. In ordinary tissues it loses its colour, apparently because of the presence of free alkali in healthy tissue; but the lardaceous substance is stained by it, and retains the colour for years. He admitted that the iodine reaction had its disadvantages, one being that the colour was not altered in character, but only intensified, so that the test was not quite so distinct as could be wished, and now and then was a little equivocal. Healthy tissue may show it slightly, and he had shown that acidified albumen and fibrin will. He could confirm Dr. Greenfield's observation, that casts and epithelial cells after soakage in acid urine will take up more of the iodine. Still, although there was no sharp line, it was distinct enough, and practically the test is the best available, although it be not absolutely pathognomonic. Certain conditions of the disease, the very early and the very late, failed sometimes to give the iodine reaction; and sometimes the educated naked eye will detect the change (e.g., in the liver as enlarged swollen pinkish translucent acini) which iodine may not reveal. Careful scrutiny was then of the first importance. Again, Dr. Goodhart had pointed out that, when lardaceous disease is retrogressive it will lose its reaction, and this Dr. Dickinson had observed in the spleen. In criticising Dr. Greenfield's exception to the term "infiltration" as opposed to "degeneration," he said that care must be taken not to quarrel about mere words. He had defined it as an addition to the natural tissues; and certainly a liver which is extremely lardaceous is the seat of something more than it normally has—something which increases

its size—three or four times. Then material can be extracted from a lardaceous organ which the healthy organ does not possess. To the question why, if it be an infiltration, the change is not universal, he would reply that it is only added to those tissues which are fitted to take it. All diseased processes have their special affinities for certain tissues and organs. That the change might be largely due to the loss of white blood-corpuscles in suppuration was suggested by him in his Croonian lectures in 1876; and he then pointed out that the potash salts, in which lardaceous material is deficient (and not the soda salts), were chiefly contained in these corpuscular elements. He made an observation at that time which a little puzzled him then. He had thought that in suppuration the white corpuscles in the blood should be diminished in number. But in counting them with Hayem's instrument he was surprised to find them greatly in excess of the normal, whilst the red corpuscles were diminished in number, and wanting in colour. He further found that in advanced lardaceous disease the white corpuscles were increased. He had very little doubt that these corpuscles played an important part in the production of this disease. Turning to the criticisms of Dr. Pye-Smith, he observed that the effect of exposing lardaceous organs to caustic alkali was to deprive the material for ever of the property of giving the iodine reaction. It was not merely because the potash combined with the iodine, but the reaction was not given again by the altered substance after all traces of free alkali had been washed away. Even saturation in acetic acid of a lardaceous organ previously treated with alkali would not restore the property of combining with iodine. Dr. Pye-Smith had urged that lardaceous matter was insoluble in artificial gastric juice, whereas ordinary albumens were soluble, and that by this means Kühne had succeeded in isolating the lardaceous substance. With all respect, Dr. Dickinson confessed that such experimentation fell short, in that it left only a nitrogenous residuum and took no regard of the salts which were removed, these salts being the important part. Dr. Pye-Smith's observation as to the comparative digestibility of acid albumen did not coincide with his own, for he (Dr. Dickinson) had found such albumens far less soluble in gastric juice than ordinary albumen, and in this respect "de-alkalinised fibrin" came closer to lardaceous substance. To the objection that lardaceous substance could not be altered fibrin because we only know of fibrin outside the bloodvessels in inflammatory conditions, he would reply that fibrin was exuded under other conditions. It occurred in dropsical effusions, it was deposited on the valves of the heart, on calcified patches in the aorta, &c. But lardaceous material was not actually fibrin. It was fibrin (or albumen) altered. Dr. Dickinson then proceeded to make a few remarks upon the general aspects of the question. In the first place, nothing had gone to show that lardaceous material is anything else than one of the constituents of the blood deposited in the tissues—it may be albumen or fibrin (either or neither). It resembles fibrin in its insolubility in water, and its tendency to attack bloodvessels. Still it occurred, but rarely, in epithelial cells. Supposing it to be albuminous, it is at least so altered that it is insoluble in water; and the point was which of these substances it most resembled, not which it was identical with. The material has its own peculiar properties. The deficiency in potash was one of them; the iodine reaction was another. As to its causes, the discussion clearly showed it most often proceeded from suppuration, and that it also was due to syphilis apart from suppuration. Of this he had no doubt. Of course there were many cases in which both were conjoined, and it is these probably in which it is met with in its most extreme forms. In Dr. Turner's list of cases of cancer, forming a small minority in which neither syphilis nor suppuration was positively proved, there was in nearly all equivocal evidence of some prior suppuration, or a history of gonorrhœa (which raised the possibility of syphilis being also contracted). No one had avowed indefinite cachexia, or alcoholism, or chronic rheumatism as causes; nor that the disease was spontaneous; and the important outcome of the debate was the almost complete limitation to those two causes—suppuration and syphilis. At one time he had thought that chronic albuminuria might give rise to it; but he had since thought that probably here he had mistaken consequence for cause. How do these known causes act? Suppuration, which is the cause of four-fifths of the cases, is characterised by obvious loss of blood-constituents; and the inference was fair that what was left behind in the blood was deposited in the tissues. But as to syphilis, although we may prove that it does act, we are not bound to explain why it acts. Looking at the nature of syphilis, we may be prepared to admit that any result of a wasting kind may be due to this disorder. Possibly the syphilitic poison prevents the development of something which pus takes away—deficient income in the one case giving the same result as excessive expenditure in the other. Although far from stating that no other causes than suppuration and syphilis could operate in the production of lardaceous disease, the probability being that there must be others, still their number was so small that they could not as yet be taken into account. Dr. Goodhart had raised the question of the influence of temperature in producing regression of lardaceous organs; and Dr. Moxon had informed him that under fever a lardaceous organ will become small. It may be that the material is burnt up by the action of the fever, and if so it is important in relation to the nature of the substance. When due to syphilis, lardaceous disease is remarkable for its curability or reparability. Of this he had seen striking instances. In one the liver reached as low as the groin, and under large doses of iodide of potassium it gradually diminished to the normal size. In another case, where syphilis and residence in India both played a part, the spleen and liver being uncommonly enlarged, the same treatment, steadily pursued, caused such a diminution in the size of these organs that when, three or four years after, the patient died from ulceration of the intestines, the liver was of the normal size, and did not yield the iodine reaction, and the spleen was almost free from the change. He had often found that when the kidneys were involved the condition was less curable. But one remarkable case he had seen seemed to show the contrary. Some three years ago he saw, in consultation with Dr. Cottle, of Savile-row, a young man suffering from advanced tertiary syphilis, many organs, including the brain, being involved. There was marked dropsy of the face and legs; polyuria and half albumen in the urine. The case justified a most unfavourable prognosis, but under large doses of the iodide, continued for two years, improvement gradually set in, the albuminuria disappeared, and no evidence of lardaceous affection remained. He also fully confirmed Mr. Hutchinson's statement as to the beneficial effect of sea air in cases due to suppuration, and mentioned the case of a child in the Hospital for Sick Children, under Mr. Smith, suffering from disease of the hip and pelvis. The liver reached nearly to the groin, the spleen to the umbilicus. Under tonic treatment, and frequent change of air at the seaside, the child lived for eight or ten years; at the end of which time the liver was only just perceptible under the ribs, and the spleen was almost of normal size. He died subsequently from some disease wholly unconnected with the lardaceous affection. There was now a boy at St. George's Hospital who, under iron and liquor potassæ improved so much that in three weeks the liver had diminished one inch in its vertical measurement. The salts of potash given alone are disappointing in their results; but some good seems to be gained by the administration of liquor potassæ with cod-liver oil and other tonics. He concluded by thanking the Society for the courtesy accorded to him.

The CHAIRMAN was sure the Society would unite in passing a cordial vote of thanks to Dr. Dickinson for the able manner in which he had introduced the subject, and the even more able and clear exposition to which they had just listened. If they had not gained many new facts, they had received clearer views as to the causes, pathology, and consequently the treatment of the disease.

Dr. GOODHART showed a specimen of Hypertrophy of the Heart, remarkable for the rapidity with which the hypertrophy had taken place. The case was that of a boy seventeen years of age admitted under his care into Guy's Hospital, having suffered from acute rheumatism for three weeks. His father had died from pneumonia, one brother had cardiac disease, but the patient was previously healthy. He lived but three days after admission, and the heart was found to weigh nineteen ounces. There was much recent pericarditis, and also recent endocarditis, but no evidence of old disease; so that presumably the heart had doubled its weight within a month. Although some inflammatory infiltration was found between the muscular fibres, it was not possible to regard the change in size as due simply to acute swelling, and he was inclined to think it really due to true hypertrophy. Drs. Peacock and Quain had published cases

of rapid hypertrophy following injury to the heart, and in his recent lectures at the College of Physicians Dr. Stone had cited a case where (also after injury) the heart had increased in size at the rate of one ounce a week. But in the present case the rate of increase must have been twice that. One was rather disinclined *à priori* to admit so rapid a growth of muscle, but, acting at double its rate, there was no reason against its excessive growth.—Dr. COUPLAND asking if the lad were addicted to gymnastics or similar over-exertion, Dr. Goodhart said that he was a porter by occupation, but had not heavy work.

Dr. BOILEAU, of Netley, showed a specimen of Penetrating Wound of the Heart, from a private soldier, inflicted by the blade of an old knife, which, in being brandished about by one of the man's associates, flew from the handle and entered his chest. He did not think it serious, but laughingly ascended fifteen steps, and commenced to run to the hospital, a distance of 200 yards, then fell, and died in five minutes. The pericardium was found full of dark blood, and a punctured wound entered the anterior surface of the right ventricle, pierced the septum, and passed out through the left ventricle near the apex. The interest of the case lay in the length of time the man lived after the injury was inflicted.—Sir JOSEPH FAYRER said that a heart was preserved in the Calcutta Pathological Museum from a soldier shot at the siege of Rangoon in 1852. Sir Joseph saw the man at the time. The ball had entered the left shoulder, and the lung appeared to be wounded. But he gradually recovered, and was sent to a convalescent hospital, and seemed well, when some six weeks after being there he died suddenly. A bullet was found in the left ventricle; there was no mark of injury on the heart wall, and it was conjectured that the missile had dropped into the ventricle from one of the large vessels.

Dr. LEECH (of Manchester) exhibited specimens of the skin, suprarenal capsule, &c., from a case of Addison's Disease. The patient, a stone-quarryman, was forty-three years of age, and was admitted into the Manchester Infirmary on Dec. 10th, 1878. Two years ago, being then in perfect health, he noticed brownish oval spots on the back of the middle and ring fingers of both hands. Thence the pigmentation rapidly spread over face, trunk, and limbs, leaving, however, several symmetrically disposed areas of uncoloured skin on the eyelids, arms, legs, and scrotum, most of these patches being distinctly marked off from the bronzed mulatto-like tint of the general surface; some of the patches were even leucodermic. With the first appearance of pigmentation his health began to fail, and he soon became too weak to follow his employment. When admitted he was thin and worn, complained of great lassitude and of lumbar pain. The face was deeply bronzed; the chest but slightly tinted; the nipples, scrotum, and penis intensely dark; and here and there on trunk were several dark freckle-like spots. (Dr. Leech exhibited a large portion of the skin from the abdomen and thighs, showing well the symmetrical non-pigmented patches contrasting with the general bronzing.) The colour, which had grown darker in some parts, had disappeared from the knuckles. The hair was dark-brown, and the mucous membranes were not pigmented. There was no anæmia; the red corpuscles were in excess of the normal; the proportion of white to red was normal. He died on the 15th of February, after suffering from two pyrexial attacks, and being much prostrated by vomiting and diarrhœa. At the post-mortem examination the abdominal viscera were found to be engorged. No trace of a right suprarenal capsule could be found, but in its place a small mass of fat. The left capsule, enlarged, nodulated, and indurated, presented the characteristic chronic inflammatory and caseated condition of Addison's disease. The semilunar ganglia and splanchnic nerves, especially those of the right side, were obviously enlarged, the former showing advanced intercellular fibrosis and atrophy of the ganglion-cells. The lungs presented caseous nodules and fibrous induration at their apices. The pigment in the skin was limited to the rete mucosum. Dr. Leech remarked that the association of atrophy of one suprarenal capsule with changes peculiar to Addison's disease in the other was exceptional. The form of pigmentation was also rare, the resemblance of the unpigmented patches with leucoderma being very striking, and of interest in connexion with a case recently reported by Dr. McCall Anderson, who pointed out the analogy between the two conditions in their dependence on sympathetic nerve-disorder.—Mr. MORRANT BAKER asked if these cases went to show the existence of any alliance between leucoderma and Addison's disease, or whether their concomitance was here purely accidental.—Dr. LEECH thought there must be some connexion, the cutaneous condition in both cases probably depending on nerve changes. Addison's disease depended more on the involvement of the abdominal sympathetic than on the change in the suprarenal capsules. Dr. McCall Anderson had also suggested a relationship with alopecia, which depends probably upon nervous changes.

The Society then adjourned until the 29th inst.

MEDICAL SOCIETY OF LONDON.

Phthisis and High Altitudes.—Some of the Causes of Epilepsy.

AT the meeting on March 31st, the President, Dr. Cockle, in the chair, a paper was read by Dr. C. T. WILLIAMS, upon "Phthisis treated at High Altitudes." The principal characteristics of mountain climates, such as those of Davos and the Engadine, in winter, were—(1) the rarefaction of the atmosphere, as shown by the low barometric pressure, causing an increase in both pulse and respiration rates; (2) the dryness of the air, resulting from the low temperature; (3) the intensity of the solar radiation, enabling individuals to sit out of doors, when in the shade the temperature was below freezing; and (4) the stillness of the atmosphere. The author then adduced four cases in illustration of the good and bad effects of mountain climates. The chief influence of the climate of high altitudes is decidedly stimulating, increasing the appetite, improving the digestion, and quickening the respiration and circulation, the latter effect causing it to be unsuitable in cardiac and cerebral cases. The physical signs of the lungs rapidly change, a diminution in dulness (due either to absorption of the consolidation, to hypertrophy of lung-tissue, or to localised emphysema) being more marked than any of the auscultatory phenomena. Pulmonary hæmorrhage was less frequent. The cases least fitted are those where pyrexia exists, and all cases where the lungs are largely involved.—The PRESIDENT remarked that many cases of phthisis are arrested for a time, and some cured, without climatic changes.—Dr. SYMES THOMPSON had this winter dissuaded many patients from spending the season in Alpine climates. Many unfit cases went to Davos on their own responsibility. Cases of bronchitis, with rheumatic diathesis and relaxed temperament, might be benefited by going to Davos; but he knew of one patient who died two days after his arrival. This was an acute case, and should never have been sent, or allowed to tax his energies by such a journey.—Dr. HERON asked if it were true that decay of animal and vegetable matter was very slow at Davos, and whether it had not obtained a reputation for the cure of phthisis because patients were enabled to take out-door exercise?—Dr. LEARED had seen patients who had been to Davos, and he thought a reaction was setting in against the place. In Iceland no phthisis exists, the atmosphere is cold and clear, and the inhabited parts are not much above the level of the sea. In Morocco, where there is also no phthisis, the atmosphere is the reverse of Iceland, and the soil is sandy. There is also no phthisis in the Jordan valley, which is eighty to ninety feet below the level of the Mediterranean.—Dr. WILLIAMS replied that many of the cases sent to Davos were improved by the change. The place was not fit for laryngeal cases. He could not speak yet as to permanent benefit to be derived from going there, but the actual benefits were due to the stimulating influence of the sun and the rarefaction of the air.

Dr. GOWERS then read a paper on Some of the Causes of Epilepsy. The association of epilepsy with phthisis and syphilis was first considered. In family histories the association with phthisis is very obtrusive in the study of epilepsy, but not conspicuous from the side of phthisis, and any causal connexion between the two diseases is probably rare. Acquired syphilis seems not to be a cause of idiopathic epilepsy; inherited syphilis probably is. The frequency with which rickets is a cause of permanent epilepsy was next considered. At least three-fourths of the cases of epilepsy dating from infancy are believed to be the consequences of rickety convulsions. The importance of this,

as bringing many cases of epilepsy within the group of preventable diseases, was pointed out. The association of cardiac disturbance and epilepsy was shown by the statistics of sixty-six cases observed by the author in which the two were conjoined, in twenty-five of which there was mitral or aortic disease. The possible connexion of these two was discussed, and their bearing on the unquestionable value of digitalis in the treatment of epilepsy, for which it has had repute for 200 years. After speaking of the connexion of epilepsy and chorea, the effect of transient causes in producing permanent epilepsy was discussed in relation to reflex causes, transient cerebral congestion, &c. Acute specific diseases as causes of epilepsy were then adverted to, and the influences of certain toxic agencies—alcohol, nitrous oxide, and albuminuria. Six cases were mentioned in which lead-poisoning caused fits similar to idiopathic epilepsy, and cases in which chronic renal disease without anæmia produced the same effect. Lastly, pregnancy was mentioned as a cause of epilepsy, and the different effects of pregnancy upon epilepsy were pointed out.—Dr. WILLIAMS did not recognise any connexion between phthisis and epilepsy; both were common diseases, and in many families diseases exist in no way connected with each other. He had seen cases of cardiac disease associated with epilepsy, and mentioned a case where the epilepsy supervened after the heart lesion had existed for thirty years.—Dr. F. DE HAVILLAND HALL had seen two cases of chronic gastric disease combined with epilepsy; in the first, as the gastric disturbance was cured the epilepsy disappeared; in the second there were symptoms of gastric ulcer.—Dr. SYMES THOMPSON asked if it was in the author's experience that the children of inebriates suffered from epilepsy.—Dr. LEARED asked whether the action of bromide of potassium was to contract the vessels. He had seen a case of gastric irritation combined with epilepsy in a child benefited by ipecacuanha given until sickness was produced whenever a fit threatened.—Dr. GOWERS, in reply, said that he was quite prepared to accept Dr. Williams' theory of the connexion between phthisis and epilepsy. Digitalis was prejudicial in cases of epilepsy when there was aortic regurgitation and hypertrophy of the left ventricle, but when there was no hypertrophy it did good. Chronic gastric disease did not cause epilepsy, but acute gastric disease did increase it. He had no experience as to the effects of intemperance in parents producing epilepsy in their offspring. Bromide of potassium acts upon the nerve elements rather than on the arteries. Vomiting prevents spasm and fits.

Reviews and Notices of Books.

A Practical Treatise on the Diseases of the Testis and of the Spermatic Cord and Scrotum. By T. B. CURLING, F.R.S., Consulting Surgeon to the London Hospital, &c. Fourth Edition, revised and enlarged. London: J. & A. Churchill.

THE fourth edition of this well-known work will fully maintain the repute it has already gained as the standard English treatise on diseases of the testis. Since the last edition was published considerable advances have been made in pathological histology, and the author has availed himself of the services of Mr. McCarthy to bring this department of his work up to the present state of our knowledge. A good deal has, of necessity, been altered, and altogether new matter has been added. Mr. Curling has very wisely entitled his book "a practical treatise," for on reading it we cannot fail to be struck with this characteristic. We are evidently learning the experience of a thoroughly practised surgeon who, for many years, has been studying these diseases clinically, and has much of great practical value to tell. Not that the volume is simply a record of Mr. Curling's work, for the opinions and researches of others are combined with his own observations in a singularly happy manner. The arrangement of the author's materials is, as a rule, good; but in a few places the inconvenience arising from discussing the etiology and morbid anatomy of disease together is very apparent. There are some of the more theoretical parts of the subject that we should like to have seen more fully dealt with. For instance, cases of atrophy of the testicle following upon head injuries are recorded without an attempt to explain their relation of cause and effect. Mr. Curling makes no mention of partial inversion of the testicle; complete inversion is a fairly common condition, and is well-recognised by surgeons, but occasionally the gland is found only partially turned round, the epididymis pointing to the thigh or to the septum scroti. We confess to some disappointment at the manner in which the etiology and pathology of chronic primary vaginal hydrocele is dealt with. No doubt there is very little known certainly on this point; nevertheless Mr. Curling's statements are, we think, open to serious objection. "A disturbance of the nicely adjusted balance between secretion and absorption" does not explain the matter. What is the disturbance? Is it increased secretion? or diminished absorption? Why does the fluid vary so much in composition? How is the presence of fat, and still more often of cholesterine, in quantity accounted for? Why is this "disturbance" so usually unilateral? These and other questions remain quite unsolved by such an explanation as the above. Again we read, "All circumstances which determine blood to the organ in excess, or impede its return to the heart, or which act in any way in disturbing the circulation through the gland, must be regarded as remote causes of the disease." No evidence is given in support of this statement, and there is a good deal to be urged against its truth. Do we know of any causes of *unilateral* determination of blood to the part, apart from inflammation? And if the determination of blood occurring during sexual excitement is a cause of hydrocele, how can we explain the fact that the disease becomes common just when the function is subsiding, and when oft-repeated and prolonged excitement is certainly unusual? Again, the most common local cause of venous obstruction is varicocele; but the combination of hydrocele and varicocele is not often met with, Mr. Curling mentioning one such case as rather a curiosity. But we may go further than this; for it is not generally held, nor does Mr. Curling mention the fact, that the operation for the radical cure of varicocele, in which many of the spermatic veins are suddenly and simultaneously obliterated, is a cause of hydrocele, although it must occasion great impediment to the return of blood from the testicle and tunica vaginalis. And surely, if circulatory disturbance is a cause of hydrocele, it is a direct rather than a "remote" one—as direct as cirrhosis of the liver is of ascites! Further on we read that the infrequency of hydrocele in obstructive heart disease is "partly owing to the pressure excited around the testicle by the accumulation of fluid in the scrotum, and the relief to the spermatic vessels afforded by the œdema." Exception must be taken to both of these statements, for the œdema and hydrocele ought to go on *pari passu;* and seeing the great tendency there is to serous effusion into the tunica vaginalis, we might expect that the tense serous sac would prevent superficial œdema. Again, the vessels relieved by scrotal œdema are the perineal and external pudic, and not the spermatic. One element in the etiology of the disease may be the subsidence of the spermatic function; the exudation occurring from the vaginal instead of the testicular capillaries. Mr. Curling attributes the hydrocele of tropical countries to the influence of malaria and lymphatic obstruction. The author thinks it probable that the fluid of congenital hydrocele is originally formed in the abdomen, but confesses to difficulty in determining the point. There are two facts throwing light on this point which we do not think he mentions. One is that vaginal hydrocele, without communication with the peritoneal sac, is of frequent occurrence in young children; the other is, that while a

patent funicular sheath is a rather common congenital defect, as is proved by the frequency of hernia into it, the corresponding variety of hydrocele is quite exceptional, and is not even mentioned by Mr. Curling; but descent of peritoneal fluid will occur as often in the one case as the other.

Mr. Curling enters a very decided protest against Vidal's practice of incising the tunica albuginea for acute inflammation of the testis. He considers the treatment to be "unsafe in practice" and "founded on wrong views in pathology." His remarks on the importance of completely curing epididymitis should be read by all who have the charge of such cases; distressing cases of sterility, arising from neglect in this matter, are not very uncommon. The etiology of varicocele sadly wants elucidation, and some of the common statements will hardly bear examination. The difference in length in the veins on the two sides is so trifling that we must hesitate to accept it as even a partial explanation of the greater frequency of the affection on the left side. It would be interesting to know whether acquired inequality in length of the two lower limbs has been found to influence the relative degree of varicosity of the veins on the two sides. It is usually held that the peculiar termination of the left spermatic vein in the renal vein is an important element in the production of varix; but before accepting this doctrine it is well to reflect that in obstructive heart and lung disease, where there is notable renal congestion, as evidenced by scanty and albuminous urine, left varicocele is not commonly met with; it should occur if the prevailing belief be correct. While, however, these and some other points are not fully discussed in this work, we can honestly recommend our readers to study it, for they will receive such sound practical instruction as cannot but be of service to them.

On the Treatment of Pulmonary Consumption, by Hygiene, Climate, and Medicine. By JAMES HENRY BENNET, M.D., &c. Third Edition. London: J. & A. Churchill. 1878.

THIS is the third edition of a well-known work by a well-known author, who himself, as he confesses, the subject of one variety of the malady on which he writes, has been compelled to winter abroad, and has thus gleaned a variety of practical experiences as to many places in the South of Europe and on the shores of the Mediterranean, the results of which appear in the book before us. There is abundant room for a work which shall be a direction in the matter of travel for remedial purposes. One man pitches upon the Riviera, a second on the Cape, a third on Egypt, a fourth on Davos, and a fifth on some inaccessible and semi-barbarous settlement on the tops of the Andes. A pulmonary cripple is taught to believe that, as he reads, this particular place is the elysium for him, the haven where he would be. Nothing is usually said of the wretched roads, the vile accommodation, the villainous smells, and the nasty cooking. A book on climate for the use of pulmonary physicians and their clients is much needed.

Is Diphtheria Preventable? Sewage Poisoning: Its Cause and Cure. By E. T. BLAKE, M.D. Hardwicke and Bogue. 1879.

Long Life and the Causes that Prevent it. By A. RANSOME, M.D., M.A., Lecturer on Hygiene at Owens College, &c. Manchester and London: John Heywood.

On the Ventilation of Rooms, House-drains, Soil-pipes, and Sewers. By P. HINCKES BIRD, F.R.C.S. (Exam)., S.Sc. Certif. Camb. London: C. L. Marsh and Co. 1879.

Lower Thames Valley Sewage: Report of a Speech. By T. J. NELSON, Chairman of the Local Sanitary Board of Hampton Wick. Kingston: Knopp's Steam Printing Works. 1879.

THIS quartette of pamphlets, selected from dozens—aye, we may say scores—of others, are pretty fair samples of sanitary literature, as it is concocted in the last quarter of the nineteenth century; for if pamphleteering could make us clean, we should be clean indeed! No. 1 contains some very plainly instructive plates showing how a house ought to be sewered and ventilated, and how most of them are in the present day arranged in this respect. The first sentence of the title might have been omitted, as savouring too much of the catch-penny style. Dr. Ransome treats his subject philosophically and scientifically, but there is little of the practical in his lecture, and as one "for the people" we cannot quite call it a success. Mr. Hinckes Bird is one of those enthusiastic sanitary reformers who probably do some good by repeating familiar scraps of information. The last above-quoted is the cheapest and the best of this small parcel, for it details in an eminently practical manner certain statistical and other particulars in connexion with the Lower Thames Valley sewage scheme, the failure of which in the House of Commons we commented on emphatically a short time ago. Mr. Nelson brings the perspicuity of an experienced and well-read lawyer to bear on his work, and so we have here an explanatory show of technicalities, which may be usefully read by all interested, whether they have supported Mr. Heywood's scheme, or, like Alderman Knight, think it a comparatively easy as well as an economical matter to dispose of the sewage by taking it out to sea.

HEALTH OF LARGE ENGLISH TOWNS IN THE FIFTEENTH WEEK OF 1879.

DURING last week 4722 births and 3511 deaths were registered in twenty of the largest English towns. The births were 460 below, whereas the deaths exceeded by 141, the average weekly numbers during 1878. The deaths showed, however, a further decline of 340 from the high numbers returned in the five preceding weeks. The annual rate per 1000, which in the four previous weeks had slowly declined from 29·1 to 27·2, further fell last week to 24·8. During the first thirteen weeks of this year, ending 29th ult., the death-rate in these towns averaged 27·5 per 1000; in the corresponding periods of the four years 1875-8 it was equal to 28·9, 26·2, 24·2, and 25·2 respectively. The lowest rates in the twenty towns last week were 15·0 in Portsmouth, 20·8 in Leicester, 21·2 in Brighton, 21·3 in Newcastle-upon-Tyne, and 21·4 in Salford. The ratio in the other towns ranged upwards to 26·7 in Oldham, 27·0 in Manchester, 29·2 in Wolverhampton, 32·3 in Plymouth, and 32·5 in Norwich. The seven principal zymotic diseases caused 388 deaths in the twenty towns last week, showing a decline of 43 from those returned in the previous week; they included 145 from whooping-cough, 76 from scarlet fever, 70 from measles, and 39 from fever, principally enteric. The annual death-rate from these seven diseases averaged 2·7 per 1000 in the twenty towns; it ranged from 0·0 and 1·5 in Plymouth and Brighton, to 3·7 in Leeds and Norwich, and 4·9 in Wolverhampton. Whooping-cough was somewhat less fatal than in the previous week; it caused the largest proportional number of deaths in Manchester and Leeds. Scarlet fever showed the greatest fatality in Nottingham, Oldham, Newcastle-upon-Tyne, and Leeds; and measles in Norwich, Wolverhampton, and Newcastle-upon-Tyne. Enteric fever caused 3 deaths both in Portsmouth and Bradford. Small-pox caused 12 more deaths in London, but not one in any of the large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals declined during the past six weeks from 353 to 236 on Saturday last; 37 new cases of small-pox were, however, admitted to these hospitals during the week.

VACCINATION GRANTS.—The following gentlemen have received Government grants for efficient vaccination:—Mr. W. A. Sumner, St. Marylebone (fourth time); and Mr. Thomas Tomlinson, of Maldon, Essex.

THE LANCET.

LONDON: SATURDAY, APRIL 19, 1879.

MR. DILLWYN'S Lunacy Law Amendment Bill bears on the back the names of Sir GEORGE BALFOUR and Mr. HERSCHELL with that of the member for Swansea, who, it will be remembered, moved for the Select Committee on Lunacy Law which sat in 1877, and was reappointed to report in the following year. The recommendations of that Committee did not point to any very great changes. Mr. DILLWYN has, therefore, probably felt it incumbent upon him to submit some specific proposal to Parliament, and the measure now brought before the House of Commons and awaiting a second reading is the result. Should the Bill survive the first crucial ordeal, and become part of the serious business of Parliament, it will be necessary to examine its provisions more closely than we feel called upon to scrutinise them at present. Meanwhile it will suffice to indicate the general scope and bearing of the changes contemplated, the detailed machinery for carrying out which would in several respects obviously need to be reconsidered, should the principles of reform embodied in the Bill be accepted.

The first ten clauses deal with the licensed houses or private asylums of the country. These institutions, as appears from a very useful return obtained by Mr. STEPHEN CAVE, contained 4189 lunatics on the 1st of January, 1878. Of the total number, 3459 were private patients, in the sense of being paid for by their friends, the charges of the remainder, 730, being defrayed by the unions. The Bill before us proposes to convert these houses—ninety-seven in all (thirty-seven in the metropolitan district, sixty in the provinces),—at present licensed to private individuals, into public asylums, without in other regards changing their status. The change is to be effected by purchase, the necessary funds to cover the value of the property, and a certain "goodwill," estimated on the basis of the average receipts of the three years next preceding the transfer, to be raised as money is now raised for the provision of public asylums. The property thus acquired would be vested in the justices of counties, and the institutions carried on as public institutions, the various officials being continued in their offices, but acquiring the position and responsibilities of public officers, and being relieved of the onus accruing to an imputation of interested motives in dealing with the insane. The aggregate income of all the asylums in a district would form a common fund out of which expenses and salaries would be paid, and if any surplus existed, this would be applied in reduction of the rates now levied for the maintenance of pauper lunatics. The machinery of the new system indicated in the Bill would necessitate the appointment of a medical director, who should have supreme administrative authority over all the asylums in the district. This official may be "the superintendent of the chief asylum in the district." The clause does not define what would constitute "the chief asylum" when all were placed on a public footing. If it were the largest, the medical superintendent is scarcely likely to have time to spare for the outside work; if it were the oldest, it would probably be the worst; and if one of the smaller houses, there would seem to be an inversion of authority. We only mention this small matter, in passing, as a sample of the sort of amendment the measure would require. The "Medical Visitor" at present appointed by justices, under the 8th and 9th VICT., c. 100, s. 17, is confirmed in his office. The metropolitan houses, which are now licensed by the Commissioners in Lunacy, it is desired to place under the jurisdiction of the justices. This proposal, which, in effect, aims at the withdrawal of authority from the Commissioners, may at once be characterised as a retrograde measure. The manner in which Lord SHAFTESBURY'S Board has discharged its executive functions entitles that body to the gratitude and confidence of the community. It would be a fatal act of misplaced confidence to transfer the licensing authority in the metropolis to the justices. The reform needed is to take it out of the hands of justices everywhere, and entrust the licensing and superior control of all asylums to the Commissioners. This is the measure for which we have contended since the inquiry instituted by THE LANCET in 1875. The facts then collected were conclusively and abundantly sufficient to show that the expedient change would be to increase the powers of the Commissioners in Lunacy, so as to give them more than authority to "recommend." Public prudence in this matter, we are convinced, requires that those who recommend should be able to enforce their counsels and make them obligatory. On this point it is unnecessary to make any reservation.

We prefer not at present to discuss the measures by which Mr. DILLWYN proposes to minimise the risk of sane persons being incarcerated in asylums. It is difficult to believe that any real safeguard can be created by requiring the attestation of a magistrate to the certificate given by a medical practitioner. We have no doubt as to the *bona fides* of those who sign statements to the effect that patients are insane. Our misgiving relates to the competency of practitioners who are not familiar with mental diseases, who have not in any way studied the subject of insanity, to pronounce a judgment which is practically without appeal, because the sentence passed is summarily inflicted, the brand of insanity is instantly imposed, and incarceration in an asylum, with all its risks to mind, is immediately carried out. No attestation by a magistrate can mitigate this evil if, as we are persuaded is the fact, medical men certifying patients at present take all the precautions within their power to avoid mistake. No magisterial interference can enhance the security, and in the absence of *mala fides* it would be, we conceive, a needless and unworthy precaution to place medical men acting in this matter under magisterial espionage. Moreover, as far as we have been able to form an opinion, those cases in which, under the existing law, medical opinions are supplemented by the judgments of magistrates are among the most unsatisfactory. The lay justice must needs be more ignorant of this disease than any medical man can be, and either his opinion will be a needless excrescence on the case, or it will antagonise and neutralise a judgment which is of greater value. There is, we believe, only one real safeguard, and that is to secure

the opinion of an expert, acting as a public officer, and wholly without fear or affection, as we have repeatedly suggested and urged.

The clause which permits patients to seek shelter and aid by voluntarily going into an asylum, as they would go into a hospital, is a step in the right direction. We cannot say as much for the proposal to license attendants. These persons—experienced in the sinister practices of asylum routine—are the Marplots of lunacy work, and any registration which would even seem to recognise the existence of a class of "experts" of this description can scarcely fail to do mischief. The supervision of the insane is just one of those occupations in which ignorance and inexperience are the higher qualifications, if only there be earnestness and honesty in carrying out specific directions. It may save trouble to hand a patient over to the tender mercies of an expert and respectably humane attendant, but the process is ruinous as regards the prospects of *cure*—a contingency which, unhappily, it is too much the practice to throw out of the calculation of probabilities.

The Bill contemplates an increase in the number of the Commissioners. This seems to us to be a question entirely for the decision of the Lord Chancellor and Lord SHAFTESBURY. It rests entirely on the subordinate question whether the work of the Commission would be more or less well done with increased numerical strength of the Board. There is something to be said on both sides of this issue. It is possible to hamper rather than facilitate business by increasing the number of persons to whom a task is entrusted. We are, moreover, especially desirous to see the work of the Board more magisterial than it now is, and to have all the authority gathered up from the holes and corners—for example, Quarter Sessions—where it now lies dissipated, and placed in the hands of the Commissioners, who are officially responsible to the Lord Chancellor for the guardianship of the insane. The more the Board can be assimilated in its functions to the Board of the Lord Chancellor's Visitors in Lunacy, and armed with the powers now unwisely vested in the justices, the better will it be for the interests of the unsound in mind.

JUST as the tortoise on the first sunny day of early summer rouses himself from his winter's sleep, so that venerable body, the College of Physicians, at this season of the year, languidly bestirs itself for a brief period, testifying that some remains of vitality still exist in the body corporate. This season of activity commences with the delivery of a few lectures and ends with a *conversazione*—altogether, a period of about three months, during which time a President is elected or re-elected, and the names of a few new Fellows are added to the College roll. The utter stagnation that characterises the whole proceedings of the College, and the little importance attached to its deliberations by outside members of the profession, are deplorable, and illustrate the fate awaiting public institutions which abandon themselves to a policy of routine and senility.

For more than two hundred years the College of Physicians stood high in the estimation of the public and the profession, and rendered valuable services to the State. Its history, however, during the last sixty years has been that of decrepitude rather than of an institution endeavouring to keep itself always young by sympathy with the requirements and progress of the age. The first great mistake committed by the College was abandoning, at the commencement of the present century, the education and licensing of the great bulk of the general practitioners of the country to the College of Surgeons and Society of Apothecaries; whilst another fatal blow to its prestige was the withdrawal of the privilege, held by the College for nearly three hundred years, of appointing commissioners to visit the madhouses of the metropolis, owing to the alleged neglect of the Censors, as was stated at the time in the House of Commons, to do their duty. In consequence of this neglect great abuses occurred, which ultimately led to the establishment of a permanent Commission under the immediate supervision of Government. More recently we have seen the question of medical education taken from the College and placed in the hands of the Medical Council; and now the power of determining what the standard of the future examinations under the Conjoint Scheme shall be has been also transferred to the Medical Council by Lord EMLY'S amendment, which has been accepted by the Government. Whilst we think the interests of the profession will be materially benefited by the transference of the heterogeneous interests of numerous corporations to one representative body, provided that body is itself remodeled and improved, no better illustration could be found of the decrepitude of the College of Physicians than this transference of its prerogative to other hands. The Royal College has now not even the duty imposed on it of prosecuting the quacks of the metropolis, a service it once performed with vigour and effect. Indeed, the College seems to have no public function left to perform, except as custodian of the Harveian Library. This withdrawal from the sphere of external authority will not altogether be regretted if the College turns its attention to other practical duties, such as promoting on a more extended scale the cultivation of science and medicine among all branches of the profession. It seems absurd that an expensive institution should be maintained in idleness in Pall-mall, when so many vigorous societies are doing its work and have to pay for separate maintenance. Why should not the scheme for a "Royal Institute of Medicine" be revived under happier auspices, and the Berners-street Societies be permanently housed in Pall-mall? Such a transfusion of young vigorous life would speedily revivify the failing powers of the ancient corporation, and restore much of its lost prestige in the public estimation. As matters, however, stand at present, its Fellows may exclaim, almost in the very words of LAUNCELOT: "What profits us our name?—we have worked for it, and have it: pleasure to have it, none; not to have it, pain—now grown a custom; but what use in it?"

IT can hardly be said that the discussion at the Pathological Society upon the nature and distribution of lardaceous disease, which has just closed, has been fruitful of great results. Nor has it been characterised by that energy which has hitherto marked the annual debates of this Society. Is it that the members are becoming weary of mere debating, and sigh to return to the less exciting, if more instructive, practice of the exhibition of specimens?

Is it not rather that the subject in question is one upon which it would be difficult to raise enthusiasm? The subject is one of too limited, and perhaps too purely morbid, a character to inspire much interest. It certainly does not contain within it so many vital and exciting questions as tubercle, cancer, or syphilis, and the other subjects upon which the Society has of late years enjoyed the pleasure of debating. A process so purely passive in its nature, so much allied to the degenerations, and so restricted in its origin, could not be expected to afford elements for much divergence of opinion, or much dispute as to matters of fact. Still, if the results of the debate have not been striking, they have not been without profit, and to this Dr. DICKINSON himself contributed in no small degree by his speech in reply, which contained far more of suggestive argument than the too modestly brief statement with which he opened the discussion. Had he but developed his views as fully at the outset as he did at the close, we might have reaped more advantage from the debate; for in reciting his "twice-told tale" at first, he merely contented himself with a summary re-statement of facts which since his memorable paper in 1867 have been within the cognisance of all. It was perhaps the wisest course to take under the circumstances, and to have left behind at the close of the discussion more food for reflection than the bare supply furnished at the commencement.

The subject naturally falls under the two heads of observed facts and deduced theories. As to the facts, it has been clearly established that the lardaceous substance is nitrogenous in nature—a proteid or albuminoid material, differing, as Dr. PYE-SMITH pointed out, from ordinary albuminoids in its insolubility in gastric juice. Dr. DICKINSON stated, in his reply, that this insolubility only removed it one degree further from albumen than the acid-albumens or syntonin, which are far less soluble than the alkali-albumens. It has been clearly established that certain regions are more liable to be affected by it than others, notably the smaller arteries and capillaries of the liver, spleen, and kidney. It has been shown—and this also Dr. DICKINSON admits—that its affinity for iodine, so striking a characteristic of the change, is not always well marked; and some discredit has been thrown upon the "iodine test" as a pathognomonic sign. Further, Dr. DICKINSON states that, after being acted on by caustic alkali, the material fails ever after to yield the characteristic deep-brown staining with iodine—a point far more clearly brought out in his reply than in his opening remarks. But the "test" in question also had its reliability impugned by the observations of Drs. RALFE and PYE-SMITH upon the behaviour of other forms of albumen to iodine. Lastly, it has been shown that the vast majority of cases in which it occurs have had either prolonged suppuration or syphilis (with or without suppuration) for a starting-point. Dr. TURNER'S cases went, however, to show a possible connexion with cancer (although in many of them he was unable to certainly state the absence of syphilis or suppuration at some antecedent date), and abroad it has been noticed in connexion with leukæmia and other conditions. It is well, however, not to be too exclusive in etiology, and syphilis has so often been made the scapegoat of wide-spread degenerative changes that some hesitation must be granted before accepting the limitation—which, by the way, Dr. DICKINSON himself admits.

Such are a few of the facts. The theories based on them are resolvable into two—viz., that lardaceous material is an exudation or deposit from the blood, impoverished by the loss of its potash salts; and secondly, that it is a degeneration of tissue induced by the want of proper nutriment. There is something more here than a mere dispute in terms, for as at present understood there is a marked distinction between that which is styled an "infiltration" and what is known as a "degeneration." By the former is meant the separation from the blood of a material existing as such within it, and its deposition in tissues; by the latter (in its restricted sense) a change commencing in tissue elements, themselves. The first of these doctrines is comparatively a modern one, writers twenty years ago not venturing to see any distinction where they could not establish any difference in origin. As applied to the change in question, however, the distinction is more marked, because the theory of infiltration carries with it the theory that lardaceous material is none other than fibrin (or, as Dr. DICKINSON now frankly admits, albumen) deprived of potash. He believes that the loss of potash-salts in suppuration is the great cause of the production of the material, and he met the objections raised by Drs. GREENFIELD and PYE-SMITH, that the loss of leucocytes from the blood was quite as obvious in suppuration as the loss of alkali, by pointing out that it is just these constituents of the blood which contain the potash. As to the objection urged that the renal casts in lardaceous kidney were seldom lardaceous themselves, he stated that they sometimes were so; and to the further objection that the change was too limited in distribution to depend on a general blood change, he replied that all diseased processes have their peculiar seats of election, which is obvious enough. He might have added that the same objection could be raised with equal force against the "degeneration" hypothesis. On the whole, it must be admitted that, whilst maintaining his view as to the "infiltrating" character of the change, Dr. DICKINSON has conceded many points—both of fact and of theory—to those who took up the opposite view. For that reason it has been a great gain to have had his exhaustive reply, and brief though the discussion has been, it has without doubt left us with somewhat less crude notions about lardaceous changes than had hitherto prevailed. That the subject has been thoroughly sifted cannot be said. Many valuable suggestions have been made which will bear fruit in time, and perhaps the chief result will be a closer scrutiny of cases of the disease, and perhaps some more additions to the knowledge of it.

One valuable and important point came clearly out, and as it has a practical bearing it may be as well to repeat it here. It was the fact of regressive changes in lardaceous organs, and the hopefulness of the treatment of those cases especially which are syphilitic in origin. Some remarkable facts on this head were given by Dr. DICKINSON at the close of his speech in reply. It must be borne in mind, however, that although the lardaceous condition may be recovered from, there are not facts to show that it does not lead to other and equally profound changes of nutrition, which can only have one termination. This is especially true where the kidneys are involved; and although he re-

lated one striking case where albuminuria disappeared concurrently with the diminishing of an enlarged liver and spleen, Dr. DICKINSON did not feel disposed to believe that renal changes thus started could be absolutely recovered from.

THE Report of the Select Committee of the House of Lords, appointed for the purpose of inquiring into the Prevalence of Habits of Intemperance, and into the manner in which these habits have been affected by recent legislation and other causes, taken in connexion with the minutes of evidence and the various tables in the appendix, is a very valuable contribution towards the discussion of by far the most important social question of this country. We may take for granted that our readers have been made familiar with the chief conclusions reached by the Committee, through the various notices of the Report in the columns of our contemporaries. This will save us from the necessity of troubling them with details. Those who care to have the fullest information on this subject that can be obtained from all quarters and points of view cannot do better than possess themselves of the several volumes which have been issued in successive years by the Committee. Our own notice of the report will have reference rather to certain prominent questions arising out of it, and to the remedial suggestions of the Select Committee. The Government has intimated that it does not propose to legislate on the basis of the Report this session. But no Government will long be able to resist the demand to deal more stringently with a vice which, whether it be increasing or decreasing, is viewed with growing shame and regret by all who have the welfare of the people at heart.

Is drunkenness increasing? That is the great question which the Committee tried to get witnesses to answer. The Committee itself avoids a direct answer to the question, but practically admits that the evidence points to an unfavourable reply. Legislation, they say, has diminished the amount of coarse and visible drunkenness, it has improved the order of the streets and the conduct of public-houses, but the number of apprehensions for drunkenness has more than doubled in England and Wales in nine years, and the amount expended in drink, according to Mr. HOYLE, went up from £84,222,172 in 1860, to £147,288,759 in 1876. We readily admit the fallaciousness of the police statistics, which seem to vary wonderfully in plan and significance, not only in different places, but in the same place at different times. But it is difficult to resist the conclusion that the difference between an expenditure of 84 millions and 147 millions of money on intoxicants in sixteen years is not consistent with a real sound increase in national sobriety. The consumption of alcohol in beverages, in the United Kingdom, according to Professor LEVI, has gone up, in spite of the growing temperance of a large and increasing section of the community, from 3·908 gallons per head in 1856, to 4·397 in 1875. The Committee, anxious to minify the unfavourable inferences from such facts, conclude that the increased drunkenness is confined to the lowest classes of the people, and, accepting the theory of Professor LEONE LEVI, attribute most of the increased expenditure on drink to the increased spending power of all classes. It implies, Dr. LEVI suggests, not an increased number of drunken persons or an increased use of alcohol in the direction of intemperance, but an increased temperate use of it by temperate and respectable people. Just as, having more to spend, they use more tea, sugar, tobacco, and beef, so they use more spirits, wine, and beer. This is a comfortable theory, but we very much question its soundness. Dr. LEVI'S evidence is too statistical in its character to carry conviction to our minds. He is too much at the mercy of police and other such rough data. There is a great deal of drunkenness which the police confessedly ignore. A drunkard must be offensive or disorderly in the street for the police to take notice of him. There are some striking facts on this subject in the excellent evidence of Mr. LINTON, who has been at the head of the Edinburgh police since 1851, and who testifies to the uniformity of conduct, and plan of statistics, on the part of the police in that time. He shows that while there has been a decrease in the number of cases of drunk and disorderly, there has been an increase in the number of persons "drunk when charged," or "drunk when apprehended for other offences." The badly or incapably drunk are fewer, those apprehended in a state of some degree of drunkenness are more numerous. Mr. LINTON was puzzled to explain this, but it is a striking fact, and not consistent with Dr. LEVI'S view of an increased use of drink by the temperate, which, if not a contradiction in terms, does not accord with the actual process going on now in this country. Dr. LEVI must be well aware that there is a great number of persons now who absolutely take no alcohol, and a very much larger number still who, on various grounds, consume very little. The tendency of these classes is to use more of meat, tea, coffee, &c., but to use less of alcohol. This theory of Dr. LEVI'S is the more to be regretted that it seems to be accepted by the Committee, and tends to make too light of the amount of actual drunkenness still disgracing and injuring the people. Dr. LEVI further thinks that what little drunkenness still remains is chiefly confined to the uneducated and the lowest classes. Here again arises the distinction between drunkenness coarse enough to be recognised by the police and drunkenness which, according to the medical witnesses, impairs health and shortens life. The case of Scotland is not uninstructive here. It is by far the best educated division of the kingdom, but nobody will maintain that it is the least drunken. Our own belief is that there is still an enormous number of people with some degree of education who drink in the first instance ignorantly, under the impression that it is "strengthening" or harmless to do so, and that the public-house system, as at present permitted, gives a sanction to that popular delusion by supplying alcohol alone, apart from other "victuals," which a licensed victualler ought to be required to supply. The effect of alcohol taken by itself, and on the public-house system, as at present conducted is, above all things, to develop the taste for more, and to reduce the taste for other things of the nature of real food. The object of legislation should be to bring the wares of licensed victuallers into harmony with the real wants of the public, and not with its lowest tastes.

Another question raised in this Report is that of the degree of intemperance among women. It is treated with becoming gravity by the Committee. The apprehensions of women

for drunkenness are increasing, especially in London, Liverpool, Manchester, and Edinburgh. According to the London returns for 1875, the arrests for simple drunkenness included 8525 males and 7525 females. The drunk and disorderly were 7963 males and 6999 females, showing an appalling amount of drinking among women. In Liverpool, of 93,139 prisoners under the charge of Father NUGENT, of the Liverpool Borough Prison, in thirteen years, 42,750 were men, and 50,389 were women! Nine-tenths owed their imprisonment directly or indirectly, in his opinion, to drink. In Edinburgh, in seven years, female drunkenness has increased at the rate of 43·5 per cent., while the population has increased something like 5 or 6 per cent. In Liverpool the drunkenness of women is set down chiefly to the circumstances of a seaport. In Edinburgh clearly this explanation will not hold, and Baillie LEWIS, Mr. LINTON, and others, attribute it to the greatly developed trade in spirit by grocers. In Edinburgh, grocers' licences have been issued more freely than in any other town in Scotland, on the supposition that this was the least demoralising way of supplying drink to the people.

Coming to the remedial suggestions of the Committee, they take the shape of advising increased restriction of the trade, and increased stringency in the penalties for all irregularity of conduct on the part of publicans. There is little in the conclusions of the Committee to comfort those legislators who think that legislation has done all that it can do for the abatement of intemperance, and that they may now wash their hands of further responsibility. The Committee, speaking generally, advise reversion to the chief points of the Act of 1872. It was, indeed, a most responsible and unfortunate proceeding to tamper with that Act, which, by shortening the drinking hours at the end of the day, and by compelling magistrates to endorse certain offences on the licence, produced a more profound effect on the good order of public-houses than probably any Act of Parliament ever did before. By advising facilities for the trial of the Gothenburg and CHAMBERLAIN schemes, the Committee show their sense of the desirability of dissociating the supply of drink from trade motives, and of delivering the country from the worst of all tyrannies—that of a trade organisation for subordinating all political parties and proceedings (see Question 10,178) to the protection and encouragement of the trade in drink, which the public interest requires to be reduced to a minimum.

The most disappointing thing in the Report is the absence of any recommendation in favour of placing grocers' licences under the control of the licensing authorities. The increase of drunkenness among women alone would have justified this step on the part of the Committee; but their reasons for not doing so will not satisfy public opinion, and must be further considered by Parliament. This aspect of the subject seems to have been altogether misunderstood by the Select Committee; and it is difficult to believe it has been impartially dealt with. The special facilities for obtaining alcoholic drinks, created by the grocer's licence, have, beyond question, had the effect of encouraging habits of intemperance among females. The strongly expressed opinion of more than nine hundred physicians, surgeons, and general practitioners, which appeared in our columns, and were communicated to the Committee, have been ignored. The refusal to accept the signed "opinions" of medical men on the technical objection that opinion is not evidence, was a blunder.

We have already expressed our regret at the light and almost disrespectful way in which the evidence of the medical witnesses has been dealt with, not by the Committee, but by four members of the Committee, on a day when the Archbishop of YORK—who had a most important amendment on the meagre sentence of the Bishop of PETERBOROUGH to propose—and others were unable to be present. The medical profession had a right to expect that its voice would count for much more in a question on which mere statistics are not enough for guidance.

THE speech made by Mr. GRAY, the chairman of the Public Health Committee, at a recent meeting of the Corporation of Dublin, when moving the adoption of the reports of Dr. CAMERON and Dr. MAPOTHER on the death-rate and causes of mortality of that city, relieves us from the necessity of discussing the sufficiency or insufficiency of these reports and the merits of the sharp criticism to which that on the death-rate has been subjected by the Dublin Sanitary Association. The fundamental question at issue is the present sanitary condition of the city, and it is obvious from his observations that Mr. GRAY would be the last person to represent this in unnecessarily strong language. Assuming that there are, and have been of late, in Dublin, several causes in operation which would occasion in the city a death-rate apparently higher than the real one, and which are not necessarily under the control of the Corporation, it is clear, from the statements of the chairman of the Sanitary Committee, that a large proportion of the inhabitants are living under unwholesome conditions of a sort which in other large towns prove detrimental to health and life, and which there is no reason to believe operate otherwise on the persons subjected to their influence in Dublin. Now, according to Mr. GRAY, the Corporation will, sooner or later, have "to face a main-drainage system of some kind"—a statement received with cheers by his audience, and which we do not attempt to reconcile with the statement of Drs. CAMERON and MAPOTHER in the first of these reports, that the "main-sewer system of Dublin has been greatly improved, and surpasses that of most towns of the United Kingdom"; or this, again, with their further statement, that the city is built "on the estuary of a river, and close to a bay with flat muddy shores, over which sewage is spread in enormous quantities." Again: Mr. GRAY informs us that "the house-drains of Dublin were in a wretched condition, and it would require strong action to make the owners of property put them in order." Then we learn that the Corporation had not yet been able to cope with the scavenging of the city—in other words, to make proper provision for the regular removal of the filth which accumulates in the streets and about the houses; that there is a serious question of damp subsoil from defective street-making or deteriorated roadways; that the ground on which new houses were being built was "for the most part street-filth and all kinds of rubbish, which emitted exhalations sufficient to kill people in them"; that a considerable number of houses were in a dilapidated condition; that the slaughter-houses were in a "disgraceful" state; and

that these things by no means exhausted the subjects which the Corporation had to consider in its sanitary capacity. It may be inferred, therefore, that the rudiments of municipal health administration have yet to be mastered by the Dublin Corporation. We must confess to having little interest in refined analyses of death-rates under such circumstances. It would appear from Mr. GRAY'S observations that the Local Government Board (Ireland) had lately found it necessary to exercise its influence with the Corporation to induce it to provide an additional cab for conveying persons sick of infectious diseases to hospital, and that the Corporation was in dread lest that Board should exercise compulsory power over it to obtain the performance of some of its sanitary duties. For the rest, we should judge from Mr. GRAY'S observations that the Corporation has never recognised fully and in a business-like fashion what those duties are. It has not understood that the sanitary evils of the city, the growth of very many years of ignorance and neglect, cannot be removed except upon a well-defined plan, which would have to be carried out year by year, and by successive Corporations, if it is to be duly effected and with a just regard to economy. The Corporation appears to have contented itself with dealing with the more flagrant evils as they came to the surface—a hand-to-mouth policy as deficient in foresight as it is disastrous and wasteful both in life and money in its ultimate results.

Annotations.

"Ne quid nimis."

THE PLAGUE.

THE Medical Commissioners sent by the Privy Council to the seat of plague on the Lower Volga, in the province of Astrakhan (Surgeon-Major Colvill and Dr. Payne) have reached their destination. Their journey was interrupted for several days after they had left Moscow by the great snowstorm which swept over eastern Russia a short time ago; and before they arrived at Vetlianka the foreign commissioners, who had previously reached the infected area, had completed their work, and were about to return, if they had not already begun their journey homewards. At Tsaritzin, Mr. Colvill and Dr. Payne appear to have had an interview with General Loris Melikoff, who put into their hands an account of the results of investigation of the outbreak to the time of their arrival. The two commissioners will therefore commence their labours with the advantage of knowing the results obtained by the Russian physicians and foreign commissioners earlier on the scene; although they will be at a disadvantage in studying the several localities which were infected on account of the destruction of the infected houses, which has now been accomplished, and the completion of works of cleansing, which have transformed the places.

A Parliamentary paper has just been issued relating to the modern history and recent progress of Levantine Plague. It contains a series of official documents which have been prepared from time to time by direction of the President of the Local Government Board, and other papers. These documents, preceded by a useful note by Dr. Buchanan, the present acting medical officer of the Board, are arranged in three series. First are given extracts from reports of Medical Officers of the Board (Mr. John Simon and Dr. Seaton) relating to plague. Next are given three memoranda by Mr. Netten Radcliffe, with appendices on the recent progress of plague, reprinted from the last three annual reports of the Board's Medical Officer, and presenting an elaborate account of that progress, together with much invaluable information from numerous sources on the symptoms and habits of the disease as recently observed. The advantage of having these three memoranda brought together in one paper at the present moment is very great. Next Mr. Simon's famous observations on foreign epidemics and the general question of contagion in its bearing upon public health, with reference to the epidemics of 1865, are republished; and some minutes by the same gentleman respecting merchandise arriving in England from countries affected with plague are now for the first time published. Finally, a memorandum by the present Medical Officer of the Local Government Board (Dr. Seaton) on the systematic action in use in England to prevent the importation of infectious diseases is printed. This paper, indeed, brings together a series of documents which throw a flood of light upon the principles and practice of public health administration in respect to foreign epidemics, as contrasted with the principles and practice of quarantine, of the highest importance to the profession and the public generally when the question of plague has once more, after so many years' interval, to be considered.

THE CONJOINT SCHEME AND VIVISECTION.

BEFORE the report of the Committee of Reference on the Conjoint Scheme is finally accepted by the co-operating authorities, it is to be hoped that steps will be taken to expunge Note C, which is appended to Paragraph 12. It is to the effect that the student will have to attend a separate course of general anatomy and physiology for not less than three months, in which course it is meant that the student shall be engaged in the necessary experiments and manipulations, "but it is not hereby intended that he shall perform vivisection." We must protest against this unnecessary hoisting of the red flag. The question of vivisection, as far as students are concerned, has been settled once for all by legislation, for no student is permitted to perform experiments on living animals. Now, unless a person fully understood the position the medical schools hold with regard to the law, he would interpret Note C into a general permission for students to perform vivisection. The practice, he would argue, would not necessarily be enforced, but the student might engage in it if he chose. Nothing seems to us more likely to provoke feelings of irritation than the injudicious wording of the note in question. It is more likely to arouse than to allay suspicion, whilst the introduction of the question at all is practically an insult to the teachers of physiology in this country. They know the law, and will be careful to conform to it.

M. RÉNAN AT THE ACADEMY.

THE reception of M. Rénan into the French Academy has everywhere been hailed as one of the happiest and most important events that has occurred in the world of letters during the present generation. But its interest is not purely literary. M. Rénan's admittance into the Academy had associations which will be remembered by every physiologist and educated medical practitioner thoughout the world. By a combination of circumstances this distinguished oriental scholar was nominated to fill the seat vacated by the death of an eminent physiologist, and in accordance with custom the man of letters had to deliver an eulogium on the illustrious scientist, his character, his labours, and his triumphs.

M. Rénan began his panegyric on Claude Bernard by styling him the greatest physiologist of our age, but observed that eminence as a physiologist alone, however high,

would never have given him a seat in the Academy. The members of that body recognised the author, not the scientist. It is perhaps at first sight remarkable that one who devoted himself to studies and pursuits apparently the most remote from what is ordinarily called literature should have attained a position among the best writers in France. "He passed," says M. Rénan, "his life in an obscure laboratory in the College of France; and there, in the midst of the most repulsive scenes, breathing the atmosphere of death, his hands smeared with blood, he found the inmost secrets of life, and dazzled everyone who knew how to see them with the truths which he sent forth from that sad retreat. A writer he certainly was, and an excellent writer, because he never thought of being one. His style was his thought itself, and as this was always great and strong, that was great and strong too." However pleasing it may be to know that while working as a practical physiologist Claude Bernard attained excellence as a writer, it is gratifying to find that M. Rénan, *facile princeps* among the graceful writers of France, has accomplished the equally difficult task of understanding and appreciating the aims and aspirations of the modern scientist. Such an attitude requires not only active sympathy, but a degree of intellectual flexibility such as few scholars possess. What can be finer or more sympathetic than the following allusion to men of science:—"As to the loftiness of these characters, how can we charge science with spoiling them when we see the souls it forms, the disinterestedness, the absolute devotion to work, the forgetfulness of self, which it inspires and preserves? Here at least there is nothing to envy in the past. To the saints, the heroes, the great men of all ages, we may unhesitatingly compare these scientific characters, attached solely to the quest of truth, indifferent to fortune, proud often of poverty, disdaining honours, careless alike of praise and of disparagement, sure of the worth of what they do, and ever happy because they hold the truth. Great indeed are the joys which an assured belief in divine things affords; but equally great is the particular happiness of learned men, for they know that they labour for a work of eternity, and that they belong to the phalanx of those of whom it may be said *opera eorum sequuntur illos.*" Claude Bernard was one of these, and his life, entirely consecrated to what is true, is the pattern which M. Rénan thinks may be opposed to those who affirm that, in our time, the source of great virtues is dried up.

After failure as apothecary and dramatic author, Claude Bernard embraced medicine, "at once the most honourable of callings and the most absorbing of sciences." But of the two great departments of medicine, that which includes the art of healing and that which considers the knowledge of the subject to be healed, Bernard preferred the latter. Throughout his career he was as little physician as possible, and did not care much for practical medicine. Like his great master, Magendie, he was a sceptic at the altar which he served. In dwelling on this, M. Rénan gives us another instance of his nice discrimination. "The physician," he observes, "like the magistrate, applies rules which he knows are imperfect; and just as the best administrator of the law is often an inferior legislator, so the best medical practitioner is not always a learned man. His task," the orator continued, "is almost as difficult as that of the watchmaker who is asked to correct the irregularities of a watch without examining its interior." Bernard was not content with this blind handling; he was determined, at all costs, to find out the secret wheels of the living mechanism with which he had to deal. To this end systematic experimentation was necessary. He did not, however, like Magendie, perform experiments recklessly or aimlessly and with a disregard of animal suffering. As M. Chauffard remarked, a few months ago, in the *Revue des Deux Mondes*, "Claude Bernard always knew what he wished to do, and to see, when he submitted a living animal to the sacrifices required by science." As Bernard himself enthusiastically said, "The physiologist is not a man of the world; he is a *savant;* he is a man absorbed by a scientific idea which he pursues; he neither hears the cries of animals nor heeds the flowing blood; he sees only his idea, and perceives only the organisms which hide the problems he is striving to solve. In like manner the surgeon is not checked by cries or sobs, because he keeps his idea in view and looks to the purpose of the operation. So, too, the anatomist never feels that he is in a horrible charnel-house; under the influence of a scientific idea he follows with delight a nervous cord among the putrid and livid flesh, which to another man would be an object of horror and disgust." Experimental research was with Bernard an all-absorbing passion. In spite of ridicule, disappointment, and obloquy, he persevered in his unselfish labours to benefit his race. "He did," says M. Rénan, "enough for his glory, and his mark will last for ever. His religion was Truth; he had neither distrust nor weakness, for he never for one moment doubted science, which always brings happiness, if we are content with it, and do not ask of it more than it can give. Science, at least, gave to him all that calm which certitude of being right procures. He envied no one, believing that he had the better part."

NURSING.

HOSPITAL nursing and private nursing have of late occupied many pages of the multitudinous monthlies now published. But the quality of such articles has been for the most part very mediocre, taking into consideration the important fact that the subject-matter is written for the public and not for any profession in particular. Our attention has been drawn to an article on Nursing in *Fraser's Magazine* of the current month, written by a medical man, who, in common with most practitioners, feels the want of an adequate helping hand in the sick-room—one who can be left with confidence to perform the various and varied duties comprehended in attendance on an invalid. But, somehow, the author in addressing the public seems to have missed his mark. He does not to our mind show at all satisfactorily the very important distinction that must always exist between the duties of hospital as compared with those of private nursing, so different that, in some essential items, a separate training is required. We advert at once to this, it may be, somewhat fragmentary, though important aspect of the subject, because all "would-be" nurses ought to have very distinct notions on this point. The pupil commences, in a well-ordered hospital, with all nursing means and appliances at hand. There is an abundant supply of hot water, linen, bandages, linseed, and other materials for poultice-making, a good cook, and a good kitchen. There are contrivances for shifting a case of paralysis with the least difficulty and the least possible expenditure of physical strength. Routine so permeates everything that, as Mr. Barraclough very properly points out, it becomes an evil, and very often a serious one. But nothing of this kind is found in the case of private nursing, where qualities of a much more miscellaneous kind are required. The skilled hospital nurse, drafted off for the first time to a suburban or country house, not specially well arranged, and inhabited for the moment perhaps by a severe case of typhoid or a bad accident, finds no odd scraps of linen, no bandages, a sparse supply of clean linen (particularly at the beginning of the week), and probably an intermittent or indifferent water-supply. Everything must be devised and be "schemed" out of something else; and, in point of fact, physician, surgeon, and nurse alike have to make bricks without straw. We may remark here, parenthetically, that

the same sort of difficulty occurs to the medical man, if not well trained during his student career; and there are many highly skilled teachers at our chief schools who would, we take it, find themselves much at a loss, and, to some extent helpless, if transported to a small and lonely farmhouse in, say, the middle of the fens, having to treat a severe thrashing-machine casualty with no appliances, and no house-surgeon or hospital sister or nurse ready with their armful of splints, sponges, lint, and compresses. Many a country doctor who had spent his professional life in the rural districts would beat the professor who had not learned (because the necessity for it had not arisen) to be thus self-reliant. And so with nursing. Those who elect to follow this very laborious and often thankless occupation should above all things learn to do much with very little, and though the basis of all sound knowledge of this kind should be obtained in a well-ordered hospital, no nurse is fit for out-door work who has not learnt to dispense with many of the aids that are in these establishments always ready at hand, so much so indeed that one grows to think they will be found everywhere. Speaking, as we must necessarily do, from the physician's or surgeon's point of view, the best nurse is she who can subordinate her own ideas of treatment to those of the medical attendant, and to do this she must have confidence in him. There are sisters and nurses, both in hospitals and private houses, who *will* persistently adopt their own line of action in giving the patient stimulants or the reverse, or even in giving or withholding medicines, often in diametric opposition to the direction of the doctor. It appears to be forgotten, in such cases, that the latter and not the former is really responsible, and that the former has responsibilities also, not less absolute and pressing. In spite of all that has been written on this matter, we still require for the laity a comprehensive article, that perhaps should be penned by a layman, or at all events by some one who is neither a medical man nor one of the nursing fraternity.

YELLOW FEVER AT ST. THOMAS, W.I.

WE have just received a file of the *St. Thomas Times*, one number of which, dated the 12th ult., contains a letter from Mr. W. C. Lamb, that makes some very stringent comments upon a letter from Dr. Bröndsted, King's Physician on the island, which was inserted in THE LANCET of the 8th of February. It will suffice to say that the letter referred to practically denies the existence of yellow fever in the island, the veracity of which statement is (to use one of the writer's own expressions) most unblushingly repudiated by Mr. Lamb. It is necessary to take notice of some of the gentleman's very strongly flavoured epistle (which we regret that want of space does not permit us to reproduce for the amusement of our readers), because quarantine and all matters akin thereto are just now occupying the attention of commercial men very considerably, and so a statement published through the medium of a letter in THE LANCET, as to the presence of a virulent epidemic disease in any place, is likely to do a vast amount of mischief. The writers of these two letters are alone responsible for the statements made, and we must leave the inhabitants of St. Thomas to find out whether the "King's Physician," or the very energetic adopter of "the foible of Ananias," is veracious. Meanwhile, it is a pity that any inhabitant of so important a port of call as the island of St. Thomas should jeopardise the commercial prosperity and sanitary prestige of their town by the publication of statements that cannot be substantiated, or are comparatively untrue or absolutely false, and in this case it appears to us that at all events one of these three conditions must apply to most of the statements contained in one or other of the letters above referred to. We cannot reproduce them, but, as we remarked before, the first may be found in THE LANCET of February 8th, and the rejoinder in the *St. Thomas Times* of March 12th, on which, when read, our readers can form their own judgment. Meanwhile, we rejoice in any discussion, however acrimonious, that assists to display in true colours the absurdity and uselessnes of quarantine.

HYDROPHOBIA TREATED WITH CURARA.

A CASE of hydrophobia in which curara was carefully tried, but without effect, has been reported by Dr. F. B. Curtis in the *Boston Medical and Surgical Journal*. The patient was a man aged sixty-eight, and the bite was received seven weeks before admission and was not cauterised. The first symptom was the characteristic choking and gasping paroxysm on attempting to swallow. Morphia was injected at first, but without success. Two days after the onset of the symptoms treatment by curara was commenced. The first injection was at 2 P.M. of one-third of a grain. An hour later, and again two hours later, the same quantity was injected. At 6 half a grain, at 8.45 three-fourths of a grain, and at 9 and 10.45 the same dose was repeated. No symptoms attributable to the curara could be detected. The symptoms due to the hydrophobia continued unmodified. At 3 the next morning a grain of curara was injected; half an hour later great muscular weakness was observed. At 5 another grain was injected. At 6.15 the patient, who, in the course of the preceding eighteen hours, had received six and a half grains of curara, escaped from his watchers, ran out of the ward and across the hospital grounds, and clambered with great agility and apparently unimpaired muscular force over a high fence. He was found in a yard near, and was brought back to the hospital without making much resistance. Afterwards paroxysms of dyspnœa and intense pains in the head succeeded one another with great frequency. At 7 a grain, and at 8.15 a grain and a half of curara was injected. The latter dose was repeated at 10.15, and at 11 two grains were injected. At 1 two grains were given. The paroxysms continued, the patient's weakness rapidly increased, and he sank a short time afterwards. With the doubtful exception of profuse perspiration, no signs of curara poisoning, not attributable to the progress of the disease itself, were observed. The curara had previously been tested and found active.

MUZZLING A MEDICAL OFFICER OF HEALTH.

IT would appear, according to the *Staffordshire Sentinel*, that the medical officer of health for the borough of Longton, in the exercise of his function as sanitary watch-dog, has been barking so inconsiderately and so loudly as to disturb very considerably the repose of his masters, the Town Council. It has therefore been decided to muzzle him, and the mode in which this is to be done has certainly the merit of ingeniousness. His barking is to be regulated and toned to a pitch which will soothe rather than irritate the Corporation; in other words, his reports are not to go forth to the public until they have been purged of all "irrelevant" and "sensational" matter by the Sanitary Committee of the Corporation. Among this "irrelevant" and "sensational" matter, the medical officer of health's observations on the infant mortality of the district seems to have a place. Unluckily for the Town Council, but happily for the town, we gather from our contemporary that the medical officer of health is held to bark in the interest of the community as a whole, and not merely in the interest of the Town Council, and that, however much that body may be perturbed by the barking, the community are disposed to give ear to it as a useful and needful warning. If this be the case, the Corporation's attempt to muzzle their officer must prove as futile as it is foolish.

ARSENICAL WALL-PAPER POISONING.

AT the last meeting of the Medical Society on April 7th, an interesting discussion was raised upon the ill effects of arsenical wall-papers, after a paper contributed by Mr. Jabez Hogg. Amongst the speakers was Mr. Carr, C.E., who said that bright colours can be produced without the aid of arsenic, although it is employed in many manufactures in which its use is not suspected. He considered that dangerous articles of this description should not be sold without a licence or notice of their employment. He cited the occupation of green-japanning of tea-canisters as highly dangerous, many of those employed in the trade being soon obliged to give it up. The colour used in green Venetian blinds is arsenical, and when the paint becomes decayed the particles of colour fly off each time the blinds are moved. He also referred to the dangerous ingredients used in some other in-door paints. He urged legislative interference in the trades in which these dangerous colours are used, and felt confident that Government would interpose in this matter if applied to in a proper manner. Amongst other speakers both Mr. Malcolm Morris and Dr. Brookfield related how they had personally suffered severely from arsenical poisoning due to house-painting, and eventually, on the suggestion of the first-named gentleman, it was resolved to form a committee for the purpose of organising a deputation to the Government.

FOUL WATER AND DYSENTERY.

WE have for some years been accustomed to connect the continual occurrence of dysentery, chiefly in India and China, with the imbibition of bad water, or water fouled by excreta or other unhealthy material. An interesting additional proof of this connexion is recorded in the *Indian Medical Gazette*, from the pen of Dr. Payne, superintendent of asylums in the Calcutta Presidency, who, in his report for 1876, remarked emphatically on the exemption from dysentery that the inmates of the native lunatic asylum at Calcutta had enjoyed during the previous year. It appears that the resident surgeon, like his predecessors, had been much exercised by the continued prevalence of this disease in the institution, and had adopted every possible means for its eradication. It seems, however, that a large proportion of the patients had for some time been affected with round intestinal worms. The medical officer thus explains the history of the epidemic, and the means that were adopted for its removal:—

"Outside the latrines there were shallow masonry reservoirs of water, to which the people resorted for ablution after using the latrines. Early in the year, in the course of a morning visit, I noticed that a lunatic, after washing himself, lifted a handful of the water to his mouth, and there appeared at once an explanation of the great quantity of worms in the asylum; for it was clear that when any one discharged the ova they would readily find their way to the stomachs of others adopting this practice, and it was equally clear that, so long as access were allowed to stagnant water for ablution, the practice would continue. A plan was devised by which this use of water should be made impossible. The reservoir was broken up. A pipe was provided, supplied with water, and taps fitted to its side at intervals. On opening either of the taps a stream of water projected horizontally and fell on a platform which sloped to a drain. The lunatic seated on the platform, opposite the stream, or rather in it, could wash freely, but be unable to make any further use of water which had once touched his body. This appeared to be entirely successful, for after a short time no more was heard of round worms in the asylum."

But a still more satisfactory sequel occurred in the cessation, or, at all events, remarkable diminution in cases of dysentery, which dropped from 103 in 1875 to 35 in 1876, and it is remarked, "From 1876 to the present time the asylum has remained free from both worms and dysentery though the last two years have been periods of excessive mortality in the neighbourhood." We have not space to follow the writer through the details of many painstaking observations, in which he shows, and, as we think, quite conclusively, that no other causes, direct or indirect, were at work to aid, even to a remote extent, in producing this result. The fact is a valuable contribution to the proof of a distinct connexion between foul water and dysentery. This disease, in its chronic form, always furnishes a large contingent of patients to the *Dreadnought* Hospital at Greenwich; but it has been observed by the officers of that institution that, as more care has been taken recently in supplying water to ships at Calcutta, Hong Kong, &c., so the severity of the cases sent home has much diminished. The substitution of iron tanks for casks was a very important step in the right direction, and most good ships now cease to take their supply of drinking-water from the rivers in India and China.

ROYAL COLLEGE OF SURGEONS.

AT the quarterly meeting of the Royal College of Surgeons held on Thursday, the 10th inst., the President stated that at the interview he had with the Duke of Richmond and Gordon, his Grace promised to make provision in the Medical Bill for the support of the Museum, and that no change would be made in the constitution of the General Medical Council without due warning. Two important memorials were presented, one signed by ophthalmic surgeons, and the other by obstetricians, asking respectively for a compulsory course of instruction in ophthalmology, and an extension of the midwifery course, with subsequent examination. An extraordinary proposal was mooted that all dentists on the new register shall be eligible to the examinations for the licence of Dental Surgery *sine curriculo*. A motion to this effect may be made at the next meeting of the Council, but the idea is at once so unjust to those licentiates who have borne the labour and expense of the curriculum, and so undignified on the part of the College, that there should be no likelihood of its being adopted.

SANITARY NOTES.

A SOMEWHAT important inquiry was held about a month ago by Major Marendin, R.E., one of the inspectors of the Board of Trade, with reference to an application made for granting a provisional order for the Herts and Essex waterworks scheme. It appeared that as the town of Epping was, up to 1870, in a bad state as to its water-supply, sewers were made and waterworks constructed under the powers of the Sanitary Act of 1866. Water was found in the Thames sands, but for some reason the works were not proceeded with, the contractors failed to carry out their agreement, and the result is that up to the present time nothing has been done. Having heard a variety of evidence at the meeting, Major Marendin presented his Report to the President of the Board of Trade, which indicates in brief that the arguments adduced by the promoters of the order were sensible, and that in consequence the prayer of the petition might reasonably be granted.

The Thames pollution question, raised in consequence of the lamentable *Princess Alice* catastrophe, was renewed some few days ago at a meeting of the Plumstead vestry, when Mr. Kimber, one of the leading members of the Board, read a copy of the petition that it is proposed to send to both Houses of Parliament, pointing out the condition of the river, and the necessity that exists for speedy and decisive legislation. The Port Sanitary Committee of the Corporation of London are, it appears, collecting statistics showing categorically the great number of foul outfalls that still exist, even in the district of the Metropolitan Board of

Works, which will, as we suspect, somewhat astonish those persons who have hitherto fondly believed in the authorities at Spring-gardens, and think that now no sewage finds its way into the Thames between Chiswick and Plumstead. Unless we mistake not, the forthcoming Report will show a very different state of things, eminently unsatisfactory to metropolitan ratepayers.

THE MEDICAL DIRECTOR-GENERAL OF THE NAVY.

OUR contemporary, the *Army and Navy Gazette*, confirms the statement lately made in THE LANCET, to the effect that Sir Alexander Armstrong will retain the above appointment until the end of the year, when a successor will have to be found. So that "my Lords" have but put off, so to speak, the evil (or shall we say the happy?) day, and the would-be Directors-General will each and all have another eight months wherein to nurse fondly their hopes of obtaining the *bon bouche*, with its difficulties, responsibilities, and honours. Is it a post to be much coveted just now? We fancy not, unless the present officer's successor comes in with a plan of departmental reorganisation cut and dried, and has, moreover, power to carry it out fully and faithfully, if only as an experiment.

THE SANITARY STATE OF LINCOLN.

LINCOLN gives up very unwillingly its ancient municipal and ecclesiastical right to dirt, squalor, and disease. The first real step to a purgation of the hereditary notion that filth became honourable by antiquity, and that the shadow of a great cathedral hallowed it, had to be effected, if we mistake not, a few years ago, under the vulgar but imperative compulsion of the civil law. A report of recent proceedings of the Town Council, as the sanitary authority of the city, shows that much of the old leaven of unwillingness to undertake the proper health administration of the city still remains. It would appear from a report of the medical officer of health that during the past quarter the mortality was at the annual rate of 31·7 per 1000 population (27·5 excluding deaths in public institutions), and that not less than 50 cases of enteric fever had occurred in the practices of six medical men alone, out of seventeen practising in the borough, 18 deaths from the disease being recorded in a period of thirty-one days. It would from this seem that Lincoln has no hospital provision for cases of infectious sickness, and no organisation for the systematic cleansing of the city, especially with regard to the cesspools and common privies which still disgrace it. One member of the Corporation questioned whether the people had not better die of enteric (typhoid) fever than be swallowed up by taxation—a view which indicates that some Lincoln folks at least have as antiquated and barbarous notions of municipal economics as they have of municipal sanitary administration.

YELLOW FEVER AND REFRIGERATION.

IT will be in the memory of most of our readers interested in the epidemic which has recently devastated some parts of North America, that among various conclusions arrived at by the Board of Experts, one was, that extreme cold effectually killed the disease. It appears that the ingenious and energetic Mr. John Gamgee, just now residing at Washington, D.C., has designed a steamer "of adequate form and strength" to carry a refrigerating machine and a store of uncongealable liquids, so that in a very short space of time any ship might be effectually subjected in all parts to any desired temperature above or below the freezing point of water."

A 1500-ton vessel is taken as the maximum, and the inventor calculates that he has provided for the complete circulation, working, and cooling of the entire volume of air in any ship of this size in five minutes. For the "blower" draws and delivers 26,400 cubic feet of air per minute, whereas the ship holds when empty 150,000 cubic feet of air. Thus much for aerial disinfection. The bilge is proposed to be disinfected by pumping into it, under very strong pressure, a solution of chloride of magnesium, which will, it is estimated, be thus drawn into the pores and crevices of the wood. It is asserted that chlorides have a preservative influence on wood, and effectually control the putrefactive or fermentative changes. As regard the cargoes, it is proposed to remove them, and employ cold storage, driving cold air through them if necessary. The cost of the steamer is calculated at about £40,000, and its maintenance at £400 a month. The idea is ingenious, and we trust that Mr. Gamgee will succeed in inducing the United States Government to give his plan a trial.

THE RUSSIAN IMPERIAL ACADEMY OF MEDICINE AND SURGERY.

THE Imperial Academy of Medicine and Surgery of Russia is about to be devoted entirely to the training of medical men for service in the army, and for completing the scientific education of medical men in the service. This change is to take place from the commencement of the scholastic year 1879-80, and the institution will in future be known as the "Imperial Military Academy of Medicine." Conformably to this destination the instruction given in the Academy will be limited to the medical sciences, preparatory studies being relegated elsewhere. The number of students is to be confined at present to 500, but it will eventually be augmented to 650. From the date of their entry they will be considered in the service of the State, and will be designated "candidates in medicine;" they will receive 300 roubles a year and an allowance for equipment, both at the time of their entry and at the time of their leaving, when they have qualified as medical men. On leaving they will be required to give eighteen months' service in the medical administration of the army for every year of their academical training.

THE NEGLECTED DEAD.

THE newspapers have reproduced from the *Freeman's Journal* a woful account of the condition of Killester churchyard, near Dublin. It seems that the yard has been officially "closed" on sanitary grounds; but public or local opinion not coinciding with the judgment pronounced, burials which were not interments have continued. Coffins have been laid on the surface of the ground, and the state of matters is hideous to read of; what must it be to see? This sort of thing would not probably have occurred in a Christian country half a century ago. The growing disrespect for the dead, which is a joint product of the widespread abandonment of belief in immortality, and of a disposition to get rid of the relics of mortality in any convenient fashion, entails the neglect of graves and graveyards. This is a matter to which public and social attention might be usefully directed.

A DISCREDITABLE PRACTICE.

IT seems that the Royal Hospital for Incurables and similar institutions, even some set apart for the training of idiots, conduct their enterprise on a purely commercial principle, although they do not, we believe, disdain to receive contributions as though they were, in the ordinary term, charities. This should be understood, that subscriptions and bequests may not be made under a misconception. The Royal Hospital for Incurables is alleged to have expelled and deposited at the gates of the Wandsworth and Clapham Workhouse an old soldier, for whom the "Royal" hospital had been re-

ceiving a yearly payment for more than three years, but in respect to which there was an arrear. Even on a strictly commercial footing this procedure was unjustifiable, because the "Royal" hospital must have made something out of the patient during the time he lodged and boarded in their ingeniously conducted institution.

The matter is so serious and grave in its logical consequences that it is necessary to insist on the urgent necessity of a change in the method of conducting business at hospitals and asylums like those which have recently attracted attention. It is possible that boards of guardians are not indisposed to leave the burden of providing for necessitous cases unduly pressing on the managers of these quasi-charities, but this cannot excuse responsible administrators of public money, which is, at least in part, appropriate to the philanthropic relief of the poor and needy, in abusing the instincts of common humanity.

EDINBURGH UNIVERSITY.

AT the close of the medical session some days ago an interesting meeting was held in the anatomical theatre under the presidency of Professor Turner, when Dr. D. G. Cunningham, the senior demonstrator, was presented by the students of the University with a handsome silver epergne, in connexion with his recent marriage. There were nearly 700 students present. After a few remarks by the chairman, a member of the students' committee asked Dr. Cunningham's acceptance of the epergne as a mark of the esteem and affectionate regard in which they held him. Dr. Cunningham, in accepting, thanked the students for the kindness with which he had been uniformly treated during the last seven years, adding that his highest ambition was to become a teacher of anatomy. Professor Turner testified to the pleasure he derived from being present. It made him feel once more young, bringing to his recollection a similar scene in the same place some sixteen years ago, when the then students did a like graceful act to their senior demonstrator, who had now the pleasure of addressing them.

The epergne, which was tastefully adorned with flowers, bore the following inscription:—"To D. G. Cunningham, Esq., M.D., C.M., F.R.S.E., Senior Demonstrator of Anatomy, from the medical students of the University of Edinburgh, on the occasion of his marriage, in testimony of the high estimation in which they hold him as their friend and teacher. Presented March, 1879."

MEASLES has appeared in an epidemic form in Aberdeen. It was introduced from Peterhead (where it has been prevalent some time) in the last week of January, and has continued steadily to spread. The number of cases reported has increased from 2 in the week ending February 1st, to 102 in the week ending April 12th; the whole number of cases, in the interval, amounting to 403. The outbreak has been of a mild type, only 6 deaths having occurred since its commencement.

AT the last meeting of the Council of the Royal College of Surgeons, the Jacksonian Prize was awarded to Mr. J. Priestley Smith, M.R.C.S., of Broad-street, Birmingham, for his dissertation on Glaucoma. Mr. Smith, who prosecuted his professional studies at Queen's College, Birmingham, and at the London Hospital, is ophthalmic surgeon at the first-named institution.

LIVERPOOL will not be outdone by London. Here plaster of Paris was sold as flour; but at Liverpool 1007 bags of rice-meal have been seized which were found by the public analyst to contain fifty per cent. of ground marble, granite, and lime.

WE regret to observe the announcement of the death of Mr. Alfred Fleischmann, who had for some time been residing at Florence. The deceased gentleman was in his forty-third year, and was prizeman and gold medalist of King's College. He was also author of several literary works of considerable merit.

THE Lord Lieutenant of Ireland has determined to appoint a commissioner to inquire into the sanitary state of Dublin. We believe that Dr. McCabe, one of the inspectors of the Local Government Board (Ireland), has been selected for the appointment.

THE borough analyst at Chesterfield has had nothing submitted to him for analysis during the last three months. This fact will certainly tend to encourage adulteration.

MR. W. F. TEEVAN, B.A., F.R.C.S., has been appointed Lettsomian Lecturer by the Council of the Medical Society of London.

MR. PARKER'S LECTURES AT THE COLLEGE OF SURGEONS.

THE sixth lecture was devoted to the Lizards. These were shown to have in all instances a movable piece to their lower jaw, and to comprehend the green lizards, the Monitors, the Geckos, the Skinks, the Cyclodonts, the Iguanas, and the Stellios. The importance of the skeleton as a basis of classification was dwelt upon. In the blind worm and in the cyclodonts there is a dermal scute inside each horny scale, and in the cyclodonts and some of the skinks the underlying parietals and frontals are extensively anchylosed to the superjacent bony scutes. In the sand lizards the investing bones that lie next the skin, without intervening muscular fibres, become rough and thick, but the horny skin over them is thin, and has no bony plates under it. The blind worms and cyclodonts, however, like the crocodiles and turtles, have bony scutes underneath the horny scales. In most lizards the three normal ventral splint-bones, one of which is azygous and the other two symmetrical, appear undergirding the shoulder girdle, and in Hatteria these are continued along the abdomen segmentally, as in the extinct Plesiosaurus. They are suppressed in the shoulders of the chameleon, an animal so exceptional in its formation as to possess almost an ordinal value. A remarkable point in some types is the retention of rows of bones strengthening the eyebrows, lying over the temporal region and flooring the outer nostril, the counterparts of which must be sought in the ancient Amphibia of the Coal Measures. The survival of such archaic dermal scutes is of great interest in some forms of reptilia, since they are for the most part suppressed. The passage from the skull of Fishes to the Silurus family, and from the highest Salamanders to the Lizard, is very gentle, and so also is that which leads from the Lizard to that of the Bird. The three steps might be likened to the stages of larva, pupa, and imago of the insect. A comparison was then made of the orbito-nasal septum in the lizards and birds, and the significance of the aperture found in the septum of the former explained.

In the seventh lecture, Professor Parker continued the consideration of the lizards, and entered upon that of the Chelonia. He referred to the correlation of the cranio-facial hinge with the suppression of most of the digits, and the loss of the prehensile power in those that remain in birds, as an instructive but intelligible piece of teleology. The rudiment of this structure, however, appears in the lizard, and this is not easy to explain, resembling what would in botany be termed a "sport." In the lizard's skull the sella turcica and half the skull behind it are ossified, as are the auditory capsules and the occipital arch. Above is the bifurcated alisphenoid, the stem alone of which is ossified. All in front remains soft. The frontal and coronal sutures are open, but the sagittal is closed except in the region of

the persistent fontanelle. The parietals are mere roof-bones propped up by a slender rounded columella of bone, which stands on the pterygoid, and might therefore with advantage be named the epipterygoid. The gradual appearance and development of this was described in the axolotl, lizards, and turtles. The skull cavity was shown to be large in proportion to the size of the brain. The whole skull and face of the lizard is an elegant piece of basketwork, in part bony and in part cartilaginous, and both light and strong. Contrasting the lizards with the birds, Professor Parker, after insisting that they were genetically related, pointed out that the birds were not descended from any lizard now living, but that there was reason to believe that both sprang from low and fishlike types, which, at first diverging but slightly, ultimately became specialised into the forms we know. In regard to the chelonia, they present such a general similarity of structure to each other that they may be regarded as collections forming only a single family. In them the outer skeleton is highly developed. In a certain sense they are toads in armour. In the early stages of their embryonic development they closely resemble birds. Their tesselated horny covering and the bony plates it encloses have retained the form and pattern of an ancient, jointed, scaly creature. There is no sternum, nor are there sternal ribs. There are limb girdles, and the limbs can be withdrawn beneath the protective armour. The connexion between the outer horny plates and the bones beneath was described, the distribution and arrangement of the former detailed, and the numerous connecting links between the turtle and the ancient plesiosaurus were given.

THE METROPOLITAN AND NATIONAL NURSING ASSOCIATION.

WE have been prevented hitherto, by want of space, from announcing to our readers that the third annual meeting of this valuable and very useful Association was held on the 1st ult., at Grosvenor House. The report recites that the staff now consists of 26 nurses, including the superintendent-general, the district superintendents, and the staff working in the Eastern District, who have not been trained by the Association. Fifteen probationers have been received in the course of the year, nine of whom, from various causes, left, and six are now undergoing hospital instruction. Three courses of lectures were delivered at the Central Home to the nurse probationers, Dr. Cheadle having lectured on Hygiene, Mr. Croft on Anatomy, and Dr. Heywood Smith on Physiology. The committee of the Association are very anxious that the Poor-law guardians in the respective districts shall avail themselves of the power that they possess, under the Poor-law Acts, to pay nurses for sick paupers, because the Association, though anxious to extend its work, is still entirely dependent on voluntary subscriptions; and if guardians would co-operate, they would at least have the security of obtaining the best class of nursing for their sick people, and that, too, at a very moderate rate.

The balance-sheet shows receipts amounting to a total of £4918, of which £143 was obtained from fees from patients and probationers, £2090 from subscriptions and donations, and £2427 from other investments. There are now four "Homes" in working order, called respectively the Central, Northern, Paddington, and Eastern. The appendix, headed "Summary of Cases," shows a total of 1604 treated during the year 1878, 891 of whom are returned as recovered or convalescent, 172 as transferred to some hospital, 262 as having died, 162 removed from the books for various causes, and 117 as still on the books. But this return does not include a large number (650) of slight cases, nor 41 serious, and 39 slight cases of infectious diseases nursed by the staff of the Eastern district. A special table, giving details as to how the patients were supported during illness, shows that, of the total number, 1177 were kept by their own earnings or those of a member of the family, 40 by charitable and 105 by parish relief, 75 by savings clubs or benefit societies, whereas in 207 cases particulars are not stated. In 833 the cases were sent by medical men, in 31 by the clergy, in 34 by district visitors, in 21 by charitable institutions, in 6 by parish authorities, in 103 by patients or their friends, and in 57 by sundry other persons, whereas 10 were discovered by the nurses themselves. The final appendix shows the class of persons nursed out, from which we extract a few of the large entries. Skilled artisans, 35; cabdrivers, coachmen, conductors, &c., 109; labourers, 250; sempstresses, needlewomen, &c., 58; printers and compositors, 30; carpenters, upholsterers, &c., 63; and bricklayers and masons, 31.

This is one of the most practical reports that we have seen, and its very concise and happily brief style commends the Association to the sympathy and support of the profession as well as the public.

THE COMMITTEE ON "CHLORAL."

To the Editor of THE LANCET.

SIR,—The committee appointed by the Clinical Society "to investigate what deleterious effects follow the prolonged and continuous use of chloral in ordinary doses," before concluding their report, think it well, in view of the practical importance of the subject, to appeal to those members of the profession who have not yet assisted in the inquiry, to contribute their experience. They would venture to suggest to those who enjoy the special facilities for observation afforded by family practice, that facts bearing upon the question will be particularly acceptable from them. Provided that the subject of the communication is the result of accurate observation, the mere circumstance that it is isolated, apparently inconclusive, and not of obvious importance, should not stand in the way of its being reported to the committee. It must be remembered that [illegible] by the collection and comparison of a large [illegible] facts that any useful conclusion can be [illegible] report of the committee will thus be [illegible] to the amount of aid which is rendered [illegible] large. Printed schedules will be for[illegible] and information in any form receive[illegible]

ROBERT FARQUHAR[illegible]

Brook-street, April, 1879.

PARIS.

(From a Correspon[illegible]

A DISCUSSION on the antiseptic [illegible] wounds has taken place at the Société d[illegible] opened on the 12th of February by M. P[illegible] cation on the value of alcohol dressing, wh[illegible] tained gave better results than carbolic acid. He [illegible] some experiments which he had performed, proving the insufficiency of the carbolised atmosphere in the destruction of bacteria, and maintained that the success which accompanies the treatment is entirely due to the extreme care which is bestowed on the patients. The following sitting was taken up by the observations of MM. Verneuil and Championnière. The latter, who is an enthusiastic admirer of Lister's method, reminded the Society of the magnificent statistics published by Volkmann, His, and others. M. Perrin's experiments, he said, were not conclusive. There is something more required than pulverisation to prevent the development of germs. The wound must be thoroughly washed with carbolised solution, and covered by materials which give off this acid. With reference to the organisms seen by M. Perrin to survive in a carbolised atmosphere, there were good and bad bacteria, and it was said that the good ate up the bad. Was it not possible that pulverisation might kill the latter without harming the others?

In the course of the debate, MM. Marc Sée, Trélat, Le Dentu, Guyon, Panas, and Farabœuf, expressed themselves more or less in favour of the antiseptic method. A remarkable speech was made by M. Desprès. He stated that *he* was very suspicious of these foreign innovations, which have invaded France several times this century, and always failed to effect the promised improvements. He did not believe in the doctrine of septicæmia, and maintained that his results with his *pansement sale* were as good as those of his *confrères*. He produced a patient with a severe wound of the hand, only partially occluded by strips of diachylon, and called attention to the disagreeable smell of the discharge, which

he was sure contained every possible kind of bacteria. He begged M. Trélat to look at the granulations, and tell him whether they were not as healthy as those treated antiseptically. He put but little faith in foreign statistics, not that he doubted the veracity of the authors, but that they operated unnecessarily; and out of twenty-three osteotomies related by one writer, twenty-two were certainly uncalled for. When he met Professor Lister at the Société de Chirurgie, he invited him to come and see his cases at Cochin, treated by the "dirtiest of all dressings." Professor Lister, "afraid probably of the smell," sent two of his pupils in his place, who immediately exclaimed, "You ought to use carbolic acid." Somewhat astonished at this advice, M. Desprès inquired whether their teacher ever lost any of his cases. "Never, sir," was the reply; "only one patient has died, but he was an epileptic." M. Desprès terminated his remarks by observing that he was unable to tell whether he had convinced the other members of the Society, but he felt bound to say that they had not in any way moved him. On the 12th of April the discussion was closed by M. Perrin's reply. He said that justice had been done to Lister's "pretensions." It had been shown that the so-called treatment of Lister was essentially French. The drain belonged to Chassaignac; Lemaire was the originator of carbolic acid applications; Boinet claimed the merit of opening chronic abcesses, and washing them out with antiseptics; and the search for immediate union belonged to the French school, to which is also due the catgut ligature. The only thing original in the method was the spray, and that had been shown to be useless. How was it, he asked, that after ten years' trial Lister's treatment was used by so few Parisian surgeons? To conclude: this method gave results worse by two per cent. than when other means were employed. On the whole, this debate may be looked upon as a triumph for the partisans of antiseptic surgery. M. Championnière anticipated that the opposition would come only from those who were fairly ignorant of the method, this prevision turned out to be well founded. Some of speakers carried their intolerance to an extent which is even in the Société de Chirurgie, and M. Perrin was rly unhappy in his reference to Lister's "pretensions." e taken the trouble to acquaint himself with the of these pretensions, he would at least have learnt claim is made to the invention of the drainage tube, is associated in England with the name of Chas- ac, and so called by Professor Lister. Considering, that the system is proved (to M. Perrin) to be two per t. worse than useless, it is rather strange that he should e so anxious to claim the discredit of its invention for French surgery. As to the *pansement de Lister* having been abandoned by Parisian surgeons, M. Perrin can scarcely be ignorant of the parsimony of the Assistance Publique, which regulates the administration of the hospitals, and of the difficulties thrown in the way of those who may wish to adopt *expensive* appliances.

In a recent number the *Progrès Médical* makes some observations on the illegal practice of medicine in France, and cites an instance which is worthy of reproduction. Dr. S——, living at R——, was consulted by a man who had fractured his forearm, but after a short attendance he was dismissed in favour of a local bone-setter. In consequence of this the doctor complained to the authorities, and requested that the law for the suppression of illegal practice should be enforced. In reply, he was informed that the offender, who is a tobacconist, and therefore a Government *protégé*, had agreed to refrain from surgery in future, and that it was unnecessary to take any further steps in the matter. As, however, the bone-setter had been previously condemned by the courts, Dr. S—— thought otherwise, and determined to pursue his opponent civilly. Under the circumstances he may consider himself fortunate in having obtained a verdict. According to the *Progrès Médical*, the presiding judge refused to hear the evidence of the medical men of the locality, who had frequently suffered by the defendant's practice, but listened with attention to those who testified on his behalf. Amongst these was the patient in dispute, whose arm is now powerless, but who swore most solemnly that he was perfectly recovered. Unable to do otherwise, the court were obliged to pronounce in favour of the plaintiff, but not before the president had made a speech, in which he set forth that the defendent enjoyed the confidence of the Government, and that his *honorabilité* was in no way compromised by the decision he was obliged to pronounce.

The action of the French Legislature with regard to the international recognition of medical qualifications may be open to criticism, and a more liberal policy may probably be desirable; but it would be well if the members of the General Medical Council discussed these matters with less *parti pris*. Mr. Turner is reported to have said, with reference to Dr. Thompson's nephew, "before he was allowed to practise there he had to take the *lowest* grade of an officer of health after examination." This would imply that there are several grades of the qualification, and that the gentleman in question was slighted in being admitted only to the most inferior. As a matter of fact, however, all *officiers de santé* are of the same standing. A qualified foreigner wishing to practise in France is not, moreover, obliged to take this qualification at all. He can always present himself for the five examinations of the doctorate, write a thesis, and so escape the "degradation," as Dr. Haughton puts it, "of passing *the* lowest (in this case lower) form of examination.

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the persistent fontanelle. The parietals are mere roof-bones propped up by a slender rounded columella of bone, which stands on the pterygoid, and might therefore with advantage be named the epipterygoid. The gradual appearance and development of this was described in the axolotl, lizards, and turtles. The skull cavity was shown to be large in proportion to the size of the brain. The whole skull and face of the lizard is an elegant piece of basketwork, in part bony and in part cartilaginous, and both light and strong. Contrasting the lizards with the birds, Professor Parker, after insisting that they were genetically related, pointed out that the birds were not descended from any lizard now living, but that there was reason to believe that both sprang from low and fishlike types, which, at first diverging but slightly, ultimately became specialised into the forms we know. In regard to the chelonia, they present such a general similarity of structure to each other that they may be regarded as collections forming only a single family. In them the outer skeleton is highly developed. In a certain sense they are toads in armour. In the early stages of their embryonic development they closely resemble birds. Their tesselated horny covering and the bony plates it encloses have retained the form and pattern of an ancient, jointed, scaly creature. There is no sternum, nor are there sternal ribs. There are limb girdles, and the limbs can be withdrawn beneath the protective armour. The connexion between the outer horny plates and the bones beneath was described, the distribution and arrangement of the former detailed, and the numerous connecting links between the turtle and the ancient plesiosaurus were given.

THE METROPOLITAN AND NATIONAL NURSING ASSOCIATION.

WE have been prevented hitherto, by want of space, from announcing to our readers that the third annual meeting of this valuable and very useful Association was held on the 1st ult., at Grosvenor House. The report recites that the staff now consists of 26 nurses, including the superintendent-general, the district superintendents, and the staff working in the Eastern District, who have not been trained by the Association. Fifteen probationers have been received in the course of the year, nine of whom, from various causes, left, and six are now undergoing hospital instruction. Three courses of lectures were delivered at the Central Home to the nurse probationers, Dr. Cheadle having lectured on Hygiene, Mr. Croft on Anatomy, and Dr. Heywood Smith on Physiology. The committee of the Association are very anxious that the Poor-law guardians in the respective districts shall avail themselves of the power that they possess, under the Poor-law Acts, to pay nurses for sick paupers, because the Association, though anxious to extend its work, is still entirely dependent on voluntary subscriptions; and if guardians would co-operate, they would at least have the security of obtaining the best class of nursing for their sick people, and that, too, at a very moderate rate.

The balance-sheet shows receipts amounting to a total of £4918, of which £143 was obtained from fees from patients and probationers, £2090 from subscriptions and donations, and £2427 from other investments. There are now four "Homes" in working order, called respectively the Central, Northern, Paddington, and Eastern. The appendix, headed "Summary of Cases," shows a total of 1604 treated during the year 1878, 891 of whom are returned as recovered or convalescent, 172 as transferred to some hospital, 262 as having died, 162 removed from the books for various causes, and 117 as still on the books. But this return does not include a large number (650) of slight cases, nor 41 serious, and 39 slight cases of infectious diseases nursed by the staff of the Eastern district. A special table, giving details as to how the patients were supported during illness, shows that, of the total number, 1177 were kept by their own earnings or those of a member of the family, 40 by charitable and 105 by parish relief, 75 by savings clubs or benefit societies, whereas in 207 cases particulars are not stated. In 833 the cases were sent by medical men, in 31 by the clergy, in 34 by district visitors, in 21 by charitable institutions, in 6 by parish authorities, in 103 by patients or their friends, and in 57 by sundry other persons, whereas 10 were discovered by the nurses themselves. The final appendix shows the class of persons nursed out, from which we extract a few of the large entries. Skilled artisans, 35; cabdrivers, coachmen, conductors, &c., 109; labourers, 250; sempstresses, needlewomen, &c., 58; printers and compositors, 30; carpenters, upholsterers, &c., 63; and bricklayers and masons, 31.

This is one of the most practical reports that we have seen, and its very concise and happily brief style commends the Association to the sympathy and support of the profession as well as the public.

THE COMMITTEE ON "CHLORAL."

To the Editor of THE LANCET.

SIR,—The committee appointed by the Clinical Society "to investigate what deleterious effects follow the prolonged and continuous use of chloral in ordinary doses," before concluding their report, think it well, in view of the practical importance of the subject, to appeal to those members of the profession who have not yet assisted in the inquiry, to contribute their experience. They would venture to suggest to those who enjoy the special facilities for observation afforded by family practice, that facts bearing upon the question will be particularly acceptable from them. Provided that the subject of the communication is the result of accurate observation, the mere circumstance that it is isolated, apparently inconclusive, and not of obvious importance, should not stand in the way of its being reported to the committee. It must be remembered that it is only by the collection and comparison of a large number of such facts that any useful conclusion can be arrived at, and the report of the committee will thus be valuable in proportion to the amount of aid which is rendered by the profession at large. Printed schedules will be forwarded on application, and information in any form received by the undersigned.

ROBERT FARQUHARSON, M.D., Hon. Sec.

Brook-street, April, 1879.

PARIS.

(From a Correspondent.)

A DISCUSSION on the antiseptic method of dressing wounds has taken place at the Société de Chirurgie. It was opened on the 12th of February by M. Perrin's communication on the value of alcohol dressing, which he maintained gave better results than carbolic acid. He described some experiments which he had performed, proving the insufficiency of the carbolised atmosphere in the destruction of bacteria, and maintained that the success which accompanies the treatment is entirely due to the extreme care which is bestowed on the patients. The following sitting was taken up by the observations of MM. Verneuil and Championnière. The latter, who is an enthusiastic admirer of Lister's method, reminded the Society of the magnificent statistics published by Volkmann, His, and others. M. Perrin's experiments, he said, were not conclusive. There is something more required than pulverisation to prevent the development of germs. The wound must be thoroughly washed with carbolised solution, and covered by materials which give off this acid. With reference to the organisms seen by M. Perrin to survive in a carbolised atmosphere, there were good and bad bacteria, and it was said that the good ate up the bad. Was it not possible that pulverisation might kill the latter without harming the others?

In the course of the debate, MM. Marc Sée, Trélat, Le Dentu, Guyon, Panas, and Faraboeuf, expressed themselves more or less in favour of the antiseptic method. A remarkable speech was made by M. Desprès. He stated that *he* was very suspicious of these foreign innovations, which have invaded France several times this century, and always failed to effect the promised improvements. He did not believe in the doctrine of septicæmia, and maintained that his results with his *pansement sale* were as good as those of his *confrères*. He produced a patient with a severe wound of the hand, only partially occluded by strips of dinchylon, and called attention to the disagreeable smell of the discharge, which

he was sure contained every possible kind of bacteria. He begged M. Trélat to look at the granulations, and tell him whether they were not as healthy as those treated antiseptically. He put but little faith in foreign statistics, not that he doubted the veracity of the authors, but that they operated unnecessarily; and out of twenty-three osteotomies related by one writer, twenty-two were certainly uncalled for. When he met Professor Lister at the Société de Chirurgie, he invited him to come and see his cases at Cochin, treated by the "dirtiest of all dressings." Professor Lister, "afraid probably of the smell," sent two of his pupils in his place, who immediately exclaimed, "You ought to use carbolic acid." Somewhat astonished at this advice, M. Desprès inquired whether their teacher ever lost any of his cases. "Never, sir," was the reply; "only one patient has died, but he was an epileptic." M. Desprès terminated his remarks by observing that he was unable to tell whether he had convinced the other members of the Society, but he felt bound to say that they had not in any way moved him. On the 12th of April the discussion was closed by M. Perrin's reply. He said that justice had been done to Lister's "pretensions." It had been shown that the so-called treatment of Lister was essentially French. The drain belonged to Chassaignac; Lemaire was the originator of carbolic acid applications; Boinet claimed the merit of opening chronic abcesses, and washing them out with antiseptics; and the search for immediate union belonged to the French school, to which is also due the catgut ligature. The only thing original in the method was the spray, and that had been shown to be useless. How was it, he asked, that after ten years' trial Lister's treatment was used by so few Parisian surgeons? To conclude: this method gave results worse by two per cent. than when other means were employed. On the whole, this debate may be looked upon as a triumph for the partisans of antiseptic surgery. M. Championnière anticipated that the opposition would come mainly from those who were fairly ignorant of the method, and this prevision turned out to be well founded. Some of the speakers carried their intolerance to an extent which is rare even in the Société de Chirurgie, and M. Perrin was singularly unhappy in his reference to Lister's "pretensions." Had he taken the trouble to acquaint himself with the nature of these pretensions, he would at least have learnt that no claim is made to the invention of the drainage tube, which is associated in England with the name of Chassaignac, and so called by Professor Lister. Considering, too, that the system is proved (to M. Perrin) to be two per cent. worse than useless, it is rather strange that he should be so anxious to claim the discredit of its invention for French surgery. As to the *pansement de Lister* having been abandoned by Parisian surgeons, M. Perrin can scarcely be ignorant of the parsimony of the Assistance Publique, which regulates the administration of the hospitals, and of the difficulties thrown in the way of those who may wish to adopt *expensive* appliances.

In a recent number the *Progrès Médical* makes some observations on the illegal practice of medicine in France, and cites an instance which is worthy of reproduction. Dr. S——, living at R——, was consulted by a man who had fractured his forearm, but after a short attendance he was dismissed in favour of a local bone-setter. In consequence of this the doctor complained to the authorities, and requested that the law for the suppression of illegal practice should be enforced. In reply, he was informed that the offender, who is a tobacconist, and therefore a Government *protégé*, had agreed to refrain from surgery in future, and that it was unnecessary to take any further steps in the matter. As, however, the bone-setter had been previously condemned by the courts, Dr. S—— thought otherwise, and determined to pursue his opponent civilly. Under the circumstances he may consider himself fortunate in having obtained a verdict. According to the *Progrès Médical*, the presiding judge refused to hear the evidence of the medical men of the locality, who had frequently suffered by the defendant's practice, but listened with attention to those who testified on his behalf. Amongst these was the patient in dispute, whose arm is now powerless, but who swore most solemnly that he was perfectly recovered. Unable to do otherwise, the court were obliged to pronounce in favour of the plaintiff, but not before the president had made a speech, in which he set forth that the defendent enjoyed the confidence of the Government, and that his *honorabilité* was in no way compromised by the decision he was obliged to pronounce.

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APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on April 10th:—

Bell, Frank Kingan, Birmingham.
Crooke, George Frederick, Gainsborough.
Hume, Walter Augustus, Hounslow.
Lowes, Septimus, Newcastle-on-Tyne.
Mennell, Zebulon, Shepherd's-bush.
Silk, John Frederick William, Gravesend.
Tabb, John Frederick, Herne-hill.

The following gentlemen on the same day passed the Primary Professional Examination:—

William Heneage Legge, Westminster Hospital; William Pitt Palmer, St. Bartholomew's Hospital; Charles Emelius Thompson, Middlesex Hospital.

THE Local Government Board has sanctioned a a loan of £15,250 for the erection of a fever hospital in Winter-street, Sheffield.

AT the meeting of the Society of Medical Officers of Health on Friday (this day) at Adam-street, Adelphi, Dr. B. Browning will read a paper on "Water as an agent in the spread of Diphtheria."

AT the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on the 8th inst., Dr. H. J. Domvill, C.B., Inspector-General, in the chair, the sum of £70 was distributed among the various claimants.

LAST week 1786 deaths were registered in London, representing a rate of mortality of 25·7 per 1000. Of these the seven principal zymotic diseases accounted for 194, whilst to affections of the respiratory organs were attributed 575 deaths, against 628 in the preceding week.

Medical Appointments.

BURDER, G. F., M.D., F.R.C.P.I., has been reappointed a Physician to the Bristol General Hospital.

CONRY, J., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Kilkelly Dispensary District of the Swinford Union, co. Mayo, at £100 per annum and fees, and £20 per annum as Medical Officer of Health, vice Blake.

COURT, A. S., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Certifying Factory Surgeon for the District of Pittenween, Fifeshire, vice Macarthur.

CURTIS, A., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Staines, vice F. Curtis, M.R.C.S.E.

FORREST, J., M.D., has been appointed Medical Officer to the Stirling Prison, vice W. H. Forrest, L.R.C.S.Ed., deceased.

FOWLER, W. C., M.D., M.R.C.S.E., has been appointed Medical Officer for the Parish of Cramond, Edinburghshire, vice Lowe, resigned.

FULLER, J., L.K.Q.C.P.I. & L.M., has been appointed Medical Officer and Public Vaccinator for the No. 3 District of the Bedminster Union, vice Hodgson, resigned.

GOODWIN, R. D., F.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Southern Sub-district of the Ashbourn Rural Sanitary District, Derbyshire.

HALE, E. T., L.R.C.P.Ed., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 4 District of the Bedminster Union, vice Dowling, resigned.

HANDS, A., L.R.C.P.L., M.R.C.S.E., has been reappointed Medical Officer of Health for the Wednesfield Urban Sanitary District, at £20 per annum.

HARLAND, H., M.D., M.R.C.S.E., has been appointed Medical Officer for the Wadhurst District of the Ticehurst Union, vice Mercer, deceased.

HARRISON, A., M.R.C.S.E., L.R.C.P.Ed., has been appointed Medical Officer to the Stockport Infirmary, to visit patients at their homes, vice Ashton, resigned.

HAYWARD, J. R. S., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the St. John's-wood and Portland-town Provident Dispensary, vice Evans, resigned.

JALLAND, W. H., F.R.C.S., has been elected Honorary Surgeon to the York County Hospital, vice Hornby, resigned.

JENKINS, R. W., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the New Forest Rural Sanitary District, at £100 for one year, vice the Poor-law District Medical Officers, whose appointments have expired.

LEATHAM, H. B., M.R.C.S.E., L.S.A.L., has been appointed Resident Clinical Assistant to the East London Hospital for Children.

MACKENZIE, G. H., M.D., has been appointed Lecturer on Laryngoscopy and Diseases of the Throat at the Minto House Medical School, Edinburgh.

MAHONY, L. F., M.B., M.R.C.S.E., has been appointed House-Physician to the London Hospital, vice Hawkins, resigned.

MARSH, N. K., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Liverpool Boys' Orphan Asylum, vice Bailey, resigned.

MENZIES, D. D. C., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Certifying Factory Surgeon for the District of Inverkeithing, Fifeshire, vice Bartholomew.

MORCOM, A., L.R.C.S.E. & L.M., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Dunstable, vice Farr, deceased.

O'DOWD, J., L.F.P.S.G., has been appointed Medical Officer for the Dudley South District of the Dudley Union, vice Allen, resigned.

PETERKIN, A., M.A., M.B., C.M., has been appointed Medical Officer to the Hospital for Contagious Diseases for the Boroughs of Hilthead, Partick, and Maryhill.

SMITH, H. A., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Telegraphic Construction and Maintenance Co.'s steamship *Seine*.

STEELE, R., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Hemel Hempstead District and the Workhouse of the Hemel Hempstead Union, vice Ambler, deceased.

TARLETON, J. H., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 8 District of the Axbridge Union, vice Lawrence, deceased.

THOMPSON, Dr. A., has been appointed Medical Officer of Health for the Cosford Rural Sanitary District, Suffolk, at £75 for one year, vice the Poor-law District Medical Officers, whose appointments have expired.

TWIGGE, T. N., M.R.C.S.E., has been reappointed Medical Officer of Health for the Northern Sub-district of the Ashbourn Rural Sanitary District.

WILLCOCKS, F., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the Public Dispensary, Stanhope-street, Clare-market, vice Hebb, resigned.

WOODROFFE, J. F., M.B., has been appointed Resident Medical Officer and Secretary to the Bournemouth General Dispensary and Cottage Hospital, vice Salter, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BENNETT.—On the 10th inst., at Princes-road, Liverpool, the wife of James M. Bennett, M.D., of a daughter.

BOYS.—On the 4th inst., at Lodway Villa, Pill, Bristol, the wife of Arthur Henry Boys, M.R.C.S.E., L.R.C.P.Ed., L.S.A.L., of a daughter.

HEALD.—On the 7th inst., at 73, Kirkgate, Leeds, the wife of George Henry Heald, Surgeon, of a son.

KENNEDY.—On the 18th ult., at H.M. Penal Settlement, British Guiana, the wife of D. L. Kennedy, B.A., M.B., &c., of twin daughters.

MADIGAN.—On the 9th inst., at Drumcollogher, the wife of John F. Madigan, L.R.C.P.Ed., of a son.

NEWMAN.—On the 9th inst., at Barn-hill House, Stamford, the wife of William Newman, M.D., of a son.

WALLACE.—On the 8th inst., at Hackney-road, the wife of Frederick Wallace, L.R.C.P.L., of a son, still-born.

WATKINS.—On the 3rd ult., at Boshof, Orange Free State, South Africa, the wife of Arnold F. Watkins, M.B., C.M. Edin., M.R.C.S., of a son.

MARRIAGES.

ROBERTSON—PEARSON.—On the 1st February, at Christchurch, Rangoon, Dr. William Robertson, Surgeon-Major, Army Medical Department, to Georgiana Elizabeth, daughter of John Pearson, Esq.

SICCAMA—SMITH.—On the 20th ult., at St. Andrew's, Bath, R. R. Siccama, M.R.C.S.E., Fleet Surgeon R.N., to Mary, daughter of the late Rev. W. A. Smith.

DEATHS.

ANDERSON.—On the 3rd inst., at Askam, William Anderson, M.R.C.S.E., aged 36.

ATTWOOD.—Found dead, on the 11th inst., on Hampstead-heath, Frederick Lyndon Attwood, M.R.C.S.E., of Carlton Chambers, Regent-street, aged about 35.

BEAVAN.—On the 5th inst., James Beavan, F.R.C.S.E., of Commercial-street, Hereford, aged 49.

BURKE.—On the 7th inst., at Dublin, Joseph Burke, L.R.C.S.I., Deputy Inspector-General.

DE WILTON.—On the 3rd ult., at Madras, Gerald de Wilton, M.R.C.S.E., Surgeon-Major, Madras Service, aged 48.

HUNTER.—On the 1st inst., John M. Hunter, M.D., of Clapham-common-gardens, aged 41.

JOHNSON.—On the 6th inst., at Watlington, Norfolk, Frederick William Johnson, M.R.C.S.E., aged 59.

LYELL.—On the 7th inst., at Perth, Dr. John Lyell, late of Newburgh, aged 71.

O'GRADY.—On the 5th inst., at Hyde, Thomas Standish O'Grady, L.R.C.P.Ed., aged 42.

PARKER.—On the 8th inst., at the Plantation, Killamarsh, near Chesterfield, Thomas William Parker, eldest son of the Rev. John Parker, late of Worthington, Leicestershire, and formerly of Aspley Guise, Bedfordshire, aged 32.

PRESTWICH.—On the 4th inst., at Sandbach, Cheshire, Joseph Prestwich, L.R.C.P. & M.R.C.S., of the Mount, Union-street, Oldham, aged 46. No cards.

SMYTH.—On the 3rd inst., at Dublin, Ralph Smyth, M.R.C.S.E.

SPENCE.—On the 25th August, at sea, Dr. Robert Spence, Medical Officer of the *Dunbar Castle*, bound for Brisbane, aged 36.

STUART.—On the 13th inst., at 59, King-street, Woolwich, William Stuart, M.D., aged 67.

TUDGE.—On the 29th ult., Richard Tudge, L.R.C.P.Ed., aged 36.

WESLEY.—On the 5th inst., at Chichester, William Ken Wesley, M.R.C.S., the youngest son of the late Samuel Sebastian Wesley.

WHITE.—On the 13th inst., at Harcourt-street, Dublin, Robert Perssé White, F.R.C.S.I., aged 47.

YEATES.—On the 30th ult., at Balderstone, William Michaelson Yeates, M.R.C.S.E., aged 33.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

"L'ÉPIDÉMIE ANTISEPTIQUE."

A DISCUSSION (reported in *L'Union Médicale*) on antiseptic dressings before the Société de Chirurgie seems to have disturbed the equanimity of one of the speakers, M. Desprès, who expressed himself as willing to establish a "cordon sanitaire contre ce produit, d'importation anglaise que, depuis quelques années, après avoir fait le tour du monde, envahit la France et y exerce les ravages d'une véritable épidémie antiseptique." M. Desprès is so satisfied with French surgery that he declares it has nothing to envy and nothing to borrow (*à emprunter*) from foreign surgery. The *Chauvinism* of M. Desprès was so pronounced, and seems so little shared by his colleagues and his countrymen, that we need not answer seriously his speech, which in itself indeed is a striking proof of the hold that *le pansement de Lister* has taken of French surgeons.

Dr. T. Rudd Leeson is thanked. We had already received a short notice, which is inserted in another column.

Mr. Wm. Harrison.—Carpenter's Comparative Anatomy.

PRACTICE AT THE ANTIPODES.

To the Editor of THE LANCET.

SIR,—May I ask space to reply to "M.D.," and to correct one error of his which astonishes me, considering the knowledge he claims of New South Wales?

No one with the faintest idea of the history of Australia could expect in the bush the comforts specified. The work is very hard, and only fit, as I said, for a *young man* who can rough it; yet I met many young gentlemen of good education who were enthusiastic in their praise of bush-life after seven and more years' experience.

My medical friend, whom I had known at home, and who had no object in misleading me, referred to the climate of a particular district, not to *English life*, and his account was confirmed by one of the gentlemen to whom he sent me introductions. The place had a comparatively cool summer, and frost and snow in winter. Even "M.D." must admit that in an island continent the size of Europe there may be occasional oases in the dismaying picture he draws of up-country life. As a "visitor" I received a pass over the railways, which are all in the hands of Government, and I made excursions up the western and southern lines. On the Blue Mountain plains there were some towns where it was uncomfortably cold, though the time was October, and the fierce summer coming on fast in Sydney. In one of these I was introduced at the Club, and met all the medical men of the town. There was no evidence of the repining at their lot to be expected from men in their disconsolate condition, and they expressed surprise that I was not going to remain in the colony. The hotels were as comfortable as average country inns at home, and I did not see a mosquito except on the lower plains, though there were myriads waiting to welcome me back to Sydney.

The surgeon who had the ride mentioned would, no doubt, be comforted by the fact that his fee should be £220 10*s.*, if the 210 miles did not include the return journey!

As there are no towns in the colony but Sydney larger than 5000 or 6000, it would be easy for two-thirds of the profession in any particular town to be "natives," as they call themselves.

In Sydney the doctors are notoriously well off, though the popular estimation of their profits is much exaggerated. Though I went for a holiday, I only refused partnership there because of the heat, which one day reached 106° in the shade and half-boiling point in the sun. I met only one surgeon who expressed any regret at having come, and I did not need to ask the cause.

I left Sydney in December last, and I assert positively that, up to that date, *not one medical student had been educated at the University.* Can "M.D." give facts or figures in disproof of that? A few qualified men have been examined, and have had degrees conferred, though both in Sydney and Adelaide there has been spasmodic agitation for the organisation of a teaching staff.

In Melbourne I was introduced at the hospital and at the medical part of the University. I was not permitted to hear a lecture, as my request seemed unprecedented, and I regret that I have no note of the number of students, though my impression is that it was under fifty.

My letter was written in good faith and in defence of a colony which I believe to be advancing rapidly. There are clearly some who think more medical men are required, as the grimly suggestive advertisements for "sober doctors" in the *Sydney Herald* testify. Emigration is not a thing to be rashly or hastily decided upon, and I hope that others who have had experience will give their opinions, either anonymously or with the courage of their convictions. Clearly, to judge from the letters which I have received in the last few days, the question is one that needs elucidation.

Yours &c.,

Biggleswade, April 14th, 1879. J. BOLTON EMMERSON.

Proprius.—It would be irregular to make any announcement to the effect proposed. Trust to the fact getting known without special measures.

Dr. Sidey.—The Surgeon to Newgate is Mr. Gibson.

Mr. Walter Hiffe.—The subject raised by our correspondent is a very important one. Death by unrelieved strangulated hernia is so painful a mode of death, and generally so preventable by moderately careful and intelligent surgery, that it ought rarely to happen. There is nothing in country districts or in small towns inconsistent with this principle. There have been many admirable herniotomists in provincial towns. Our correspondent must take a little blame to himself for not insisting on the operation at first, after failure of taxis. This is the golden opportunity in cases of tight hernia.

SANITARY NEGLECT IN HOLBORN.

To the Editor of THE LANCET.

SIR,—It seems to me that your Sanitary Commissioner, in penning a paragraph under the above heading, has unfairly and untruthfully reflected on the sanitary administration of this district without sufficient observation and inquiry. The houses and courts abutting on Gray's-inn-lane are scheduled and condemned by Act of Parliament to be taken down before 1882, and, being very old and badly arranged, my inspectors have a difficult task in keeping them in a good sanitary state. Many of these houses have been pulled down under the provisions of Mr. Torrens's Act. Thus four out of the six houses in Queen's-head-court have been taken down as unfit for habitation, and I maintain that the remaining two are perfectly healthy, and do not answer to the description given by your Commissioner.

It is *not* true that these houses are abominably dirty. The one in which the girl had typhoid fever on Nov. 7th, 1878, is old, but clean; has a large, open back yard; a good, wholesome supply of water, stored ten feet from the closet, and having no connexion therewith. The drainage of this and the other house is perfect, consisting of nine-inch pipe drains, laid down only a few years since, and have never been stopped or out of order. The other house, like this, is occupied by one family, but the landlord takes in three or four young men as boarders. It has five good-sized pleasant rooms, recently papered and remarkably clean. The yard is dirty, and will at once receive its spring whitewashing. There is an efficient and clean watercloset, separated by a *nine-inch brick wall* from a lead cistern containing the water for domestic use. The water from the waste-pipe of this cistern flows into the open yard, and is entirely unconnected with the drain or closet. This house is in good repair and no reasonable man would object to live in it. The dust and house refuse of both houses is stored in a specially constructed bin under the foot pavement of the open court, forty yards distant from the nearest house.

The girl's disease could not be attributed to the state of the drain, water supply, or dust. She was convalescent on Dec. 20th, when herself, her room and its contents were thoroughly disinfected. It is true that the valued servant of this Board, who fumigated the room with sulphurous acid gas, has since died, not of typhoid, as you would leave one to infer, but of cancer of the stomach.

The mother of the girl fell ill on Feb. 27th last, and although she obtained an order for medical relief, was made a private patient of the parish doctor, so that we heard nothing of her having had typhoid fever until a few days since. Her symptoms, unlike her daughter's, have been cough and constipation, never any looseness of the bowels.

The young man, who had boarded with the family, had been under Dr. O'Connor at the Royal Free Hospital for six or seven months for bronchitis and consumption before he was admitted into King's College Hospital for cerebral disease. A post-mortem examination, as far as the head was concerned, was made in the presence of his brother, a physician from Dublin. A further examination was thought unnecessary and undesirable, as the corpse had to be conveyed to Ireland for interment. After this autopsy the hospital authorities agreed with the brother in certifying that the death arose from "cerebral disease."

It is untrue that no means are provided by the Board to flush drains and closets; and as to the examination and disinfection of private drains, I believe that this Board is one of the few in London which does the work when required without any fee.

As to the house in Princes-street alluded to, I assume that it is either No. 18 or 19, probably 19. If so, your Commissioner's description is equally exaggerated and untruthful. The yard is of very limited extent, and the closet, when misused by children, is liable to be choked. The drain-pipes have never leaked. During the last six years eight notices have been served, and satisfactorily executed, and on one occasion all the occupants were turned out, and the two houses done up and painted both inside and outside. We have no power to compel the landlord to provide a different form of closet for children's use, nor do I consider a man, his wife, and eight small children too many to occupy two good-sized and well-ventilated rooms.

No doubt the health of the Holborn district is a matter of the utmost importance to the whole metropolis, and if your Commissioner will look into its vital statistics he will find that it is, and has been now for some years past, remarkably good. I shall be happy to afford him every facility for his inquiry.—Your obedient servant,

April 16th, 1879. THE MEDICAL OFFICER OF HEALTH.

CARTES DE VISITE UNRETURNED BY THOSE ADVERTISING FOR ASSISTANTS.

A CORRESPONDENT complains bitterly of not having either a reply or his *carte de visite* returned from a practitioner advertising in our columns for an assistant and a *carte* of each applicant. Such things should certainly be returned promptly.

Beta.—We have no recollection of the question. Please repeat it.

VILLAGE SKETCHES BY CAPTAIN E. H. VERNEY, R.N.

THE *Buckingham Advertiser* has been forwarded to us, containing a Sketch of the Parish Doctor, by Captain E. H. Verney, R.N., which has very naturally given much offence to members of the profession. Captain Verney is anxious for a place in Parliament, and from all accounts is not unworthy either on his own account or that of his father, Sir Harry Verney, who bears a name very much respected in Buckinghamshire and beyond it. Captain Verney's friends should advise an immediate discontinuance of the Village Sketches. If the captain's knowledge of village character is to be judged by his paper on the Parish Doctor, it is not equal to the task he has taken in hand. He does not know the stuff that parish doctors are made of in villages. They are often amongst the most respected practitioners of the county, and regard their pauper patients with something akin to affection. We do not like to characterise Captain Verney's representations as they deserve to be characterised. We will only do so by saying that they are unjust misrepresentations.

Inquirer should propound his question to a medical practitioner.

NITRO-GLYCERINE IN ANGINA PECTORIS.

To the Editor of THE LANCET.

SIR,—In the interest of humanity as well as of science, I feel constrained to write to you about a new remedy for angina pectoris, which I have tried on my own person with success, as far as relief goes. I first read of a case of angina in THE LANCET, which so exactly resembled an attack from which I was suffering myself that I was induced to write to Mr. Murrell, asking him about the drug he had used. He very kindly responded, and I began to use the medicine at once, at first in small doses, two minims of the one per cent. solution of the nitro-glycerine every three or four hours during the day. I always found relief if I took the dose when I felt the first threatening of an attack, and the paroxysm was staved off. I continued to take the two-minim dose regularly every three or four hours for about four days; and, as the attacks did not trouble me so much, I began to diminish the frequency of the dose, and only took it when I felt an attack threatened. I always carry an ounce and a half bottle of the diluted solution in the breast pocket of my coat, the bottle carefully marked for six doses, each dose containing five minims of the one per cent. solution. If I feel an attack coming on, I apply to my bottle, and at once feel that I am saved from a paroxysm. The action of the medicine seems to commence the moment it is swallowed, just as Mr. Murrell describes. It produces always a feeling of fulness in the head, singing in the ears, and a sensation of pulsation all over, especially in the head, severe at the root of the nose, as if epistaxis was threatened. I do not suffer from headache, and the congested feeling soon goes off. It is a great boon to have a remedy in which you can have perfect confidence that the painful attacks can be controlled. I have not had any severe attack of the disease since I got the solution and began to take the drug, six weeks ago. I am, however, still unable to use my own powers of locomotion. I cannot walk without bringing on an attack of angina, especially if I go up hill or up stairs; even on the level I am obliged to walk slowly; but with my little bottle of solution in my pocket I can get about, feeling perfectly armed with a remedy to control an attack if it should come on.—I am, Sir, yours truly,

G. JAMESON, L.R.C.S. Edin., &c.

Calstor, Lincolnshire, April 7th, 1879.

THE EVANS FUND.

THE following additional amount has been received at THE LANCET Office on behalf of the above:—

Mr. A. E. Barker, London £5 5 0

Dr. Joseph W. Hunt, (Wolverhampton.)—The paper will appear probably in our next.

Mr. Chas. M'Kenzie.—A medical practitioner will advise.

L.R.C.P.—Youatt or Stonehenge.

HOUSE-SURGEONS' GRATUITOUS EVIDENCE AT INQUESTS.

To the Editor of THE LANCET.

SIR,—Having only just read Mr. Reginald Harrison's letter in your issue of March 29th about house-surgeons' fees at inquests, I wish to add my humble protest against the existing regulations. The whole round of a house-surgeon's daily duties is upset by attending an inquest, and all his spare time (if he have any) is for that day occupied in finishing work he had to leave. For all this trouble he gets nothing, except perhaps the ill-disguised irritation of the honorary staff at his absence. When I was house-surgeon at the Manchester Infirmary, the repeated attendance at the Coroner's Court was a continual source of unrecompensed annoyance and trouble. I remember on one occasion spending the greater part of the day there, where I had to give evidence as to cause of death &c. in four distinct inquests without receiving any *quid pro quo*. The coroner, Mr. Herford, certainly afforded me every facility for making my stay at his Court as short as possible; but there was, nevertheless, a most *aggravating* amount of gratuitous work done.

Trusting that sensible legislation will soon relieve the grievance on this point, I am, Sir, yours faithfully,

C. E. RICHMOND,

Resident Surgeon to the Warrington Infirmary.

Warrington, April 7th, 1879.

Mr. G. H. Billington.—The information required will be found in the Students' Number of THE LANCET, September, 1878; or may be obtained from the Registrar of the school at which it is proposed to enter.

Anti-Humbug.—Nothing but the possession of the degree M.D. can legally justify the assumption of the title "Doctor."

"SHALL W ADOPT THE METRIC SYSTEM?"

To the Editor of THE LANCET.

SIR,—In many of the articles advocating the abolition of our present system of weights and measures in favour of the French metrical system, some use has been made of a general statement to the effect that already this system is preferred by the people of the United States of America, and is practically used by them. I should like to adduce some more precise evidence, which has the further advantage of being authentic. On November 6th, 1877, the House of Representatives passed a resolution, requesting the heads of the executive departments to report what objections, if any, there are to making the metrical system obligatory in all governmental transactions, and to state what objections, if any, there are to making the system obligatory in all transactions between individuals. A digest of the report from the heads of the various executive departments has been prepared by the editor of the New York *Popular Science Monthly*, and published in the April number of that excellent magazine under the above title. If you will allow me, I will present your readers with a brief summary of this article.

The Secretary of State reports, "that the obligatory use of the metrical system, so far as the operations of the Department of State are concerned,....would be of no benefit to those countries which have not adopted it, and would introduce detrimental confusion." The Department of State "is, on the whole, indisposed to recommend the obligatory use of the metrical system in all transactions between individuals."

The Secretary of the Navy reports that if the use of the metrical system in the navy were made obligatory, it would involve a total loss of all charts and chart-plates now in use, adding, "the alterations of these would give them no increased value."

The Postmaster-General reports that the only objections he has to making the metrical system obligatory throughout the domestic postal service are two: "one based on the expense incident to the change of system, and the other based on an apprehension that the practical workings of a new system will fail to give satisfaction, owing to the lack of knowledge of the metric system and experience in its use and application on the part of postmasters and of the public at large."

The Secretary of State replies by forwarding the reports of his chiefs of bureaus.

The Inspector-General says: "In my judgment, the compulsory change from the present system would be inexpedient."

The Quartermaster-General objects to a compulsory change on the grounds of inconvenience, public annoyance, and expense, and says: "The metric system is not a convenient one for common use....The true scientific natural basis of the metric system has been abandoned.... The fact is that the metre is quite as arbitrary and unscientific a standard as the foot or yard. It is of less convenient length than either of them," and the compulsory adoption would entail "unnecessary expense and trouble, and all, as it seems to me, for the sake of indulging a fancy only, and a baseless fancy, of closet philosophers and mathematicians." He concludes his denunciation of the system by declaring: "I think that to make the French metric system obligatory between individuals in this country will be an impolitic and arbitrary interference with the rights, interests, and habits and customs of the people."

The Surgeon-General reports: "I feel constrained to express the opinion that the gravest inconveniences would immediately result from an attempt to render obligatory upon Government officers only the use of a system of weights and measures, whose units are so entirely different from those which have heretofore been, and would then continue to be, in general use among the people," and he details some "of the disastrous inconveniences which would result to the medical department of the army from the measure in question." As to the obligatory use of the metrical system by the whole people, he remarks: "I must express the opinion that great public inconvenience would result if at the present time its general use were rendered obligatory by the exercise of an arbitrary act of power." The Commissary-General of Subsistence reports that the obligatory use of the metrical system in Government transactions only "would involve great confusion and great extra labour"; while as to its obligation on the people, he believes "great detriment would ensue from the adoption of the metrical system....Even with the most thorough preparation," he says, "the change, when made, will bring with it almost inextricable confusion and wellnigh intolerable inconvenience."

The Chief of Engineers reports that the proposed change "must be an inconvenience" in the works carried on under the charge of the officers of the Corps of Engineers; while as regards the compulsory use by the people, he says: "It is to be borne in mind that there is nothing in the proposed change which will in any way favourably affect the usual course of private business in this country, and that the demand for a change from the present system does not come from business men."

The Paymaster-General is the only official who expresses an unqualified opinion in favour of the adoption of the metrical system; but even he deprecates premature legislation to make it obligatory.

The editor of the *Popular Science Monthly* places these statements before his readers without comment. I shall follow his example.

I am, Sir, your obedient servant,

London, April, 1879. J. T.

PUERPERAL CONVULSIONS.

To the Editor of THE LANCET.

SIR,—The following notes of a case of puerperal convulsions of the epileptic form, which recently occurred in my practice, may be found worthy of space in the valuable pages of your journal.

On March 10th, 1879, about 10 P.M., I was sent for in haste to see Mrs. N——, who the messenger said was dying. On my arrival I found the patient quite unconscious. Whilst obtaining what history I could of her illness, a space of only about ten minutes, she had two violent convulsive seizures; her face became livid and frightfully distorted, her respiration hissing, and frothy mucus and bloody foam issued from her mouth. I learned from her attendant that she was about six months pregnant, and enjoyed good health till about a week prior to my visit, when she began to complain of headache, noises in the ears, and dimness of vision. The movements of the child had not been felt for three weeks. She had considerable œdema of the legs and eyelids. On the day previous to my visit she said she felt "very queer"; on the evening she had a fit, and several occurred during the night, but she regained consciousness during the intervals. On the following day, the date of my visit, the fits continued, and she became completely insensible. On vaginal examination, I found the os high up, and not sufficiently dilated to admit even the point of my index-finger. The bowels being emptied by simple enemata, I gave a teaspoonful of the solution of extract of ergot. In about half an hour labour commenced, and I was able during a pain to feel the "bag of waters" protruding through and distending the os uteri. The convulsive fits having ceased, and she being quite tranquil, I gave another teaspoonful of the ergot at 2 A.M. The labour advanced, and she was delivered of a male child at 6 A.M. The placenta followed in five minutes, and there was not the slightest hæmorrhage. I then ordered a draught containing twenty grains of chloral hydrate and twenty grains of bromide of potassium, and directed one such to be given every fourth hour. She remained insensible till the morning of March 12th, when she became semi-conscious, answering questions when aroused and spoken to in a loud voice. She took plenty of beef-tea, and continued to improve daily without a single bad symptom supervening. The urine, which was highly albuminous, was drawn off with a catheter, and the bowels were kept open by mild aperients.

What I consider as rather peculiar in this case was the complete cessation of the convulsions after I gave the first dose of ergot; she became at once quite easy, and the breathing became tranquil; also, I was surprised to find that, notwithstanding the convulsions had lasted for twenty-four hours previous to my visit, labour had not advanced—in fact, I was unable on my arrival to detect any signs of commencing labour at all. On March 20th I ordered her a mixture of quinine and iron. She is now up and attends to her business (that of a milliner); the œdema has completely disappeared, and she feels herself quite well in every respect.

Yours &c.,

Listowel, April 8th, 1879. JOHN T. DILLON, M.D.

To the Editor of THE LANCET.

SIR,—Of all diseases that the practitioner is called upon to treat, none perhaps present more formidable or alarming symptoms than convulsions during pregnancy or labour. No two cases appear to be exactly alike, and therefore there can be no "hard-and-fast" line of treatment. However, I wish to mention four cases that have come under my notice, and shall be glad to hear any expression of opinion from my medical brethren on the subject.

CASE 1.—A. B——, primipara. On the day labour commenced, convulsions set in. The os uteri being sufficiently dilated, I delivered with forceps; but, the seizures continuing, I bled her. The convulsions ceased three or four hours afterwards; but the patient continued comatose for three days, when she became conscious and recovered.

CASE 2.—Mrs. R——, aged twenty-four, primipara. She felt giddy and lost her vision, followed by convulsions, which lasted twelve hours. I bled in this case also, but the attacks increased; so ether was administered, which certainly "broke the back" of the seizures, and after a further comatose condition of eight hours, during which the child (eight months) was born, she became sensible, and, with tedious convalescence, recovered.

CASE 3.—H. T——, aged twenty, primipara. A month before her expected confinement she was seized with convulsions, which continued more or less until her death, five weeks later. For the four weeks prior to her delivery she was seldom quite herself, wandering, incoherent. On Feb. 18th last the convulsions were of the most violent character. The patient being anæmic, I did not think it advisable to bleed; but pregnancy being at the full period, and finding the os lax, I ruptured the membranes with a quill, dilated the os, and applied the forceps. She never became sensible, but died on the 23rd. Ether was tried in this case, but with very partial success.

CASE 4.—This was the same patient as Case 2. Puerperal convulsions in seventh month of second pregnancy. As she had grown stouter and made blood, I bled her to twenty-four ounces; but the attacks continuing, ether was administered, which *again* stayed the seizures. The child was born during the inhalation. After fifty hours' insensibility she was conscious. Albumen, which was present in the urine, has now disappeared, and she is convalescent.

In the foregoing instances I have not gone into minutiæ, but only given an outline of the cases with treatment adopted, and I would ask my brother practitioners:—1st. Do you invariably bleed if your patient is not anæmic? 2nd. Do you greatly rely upon some anæsthetic, chloroform or ether? 3rd. Do you consider delivery imperative? If so, would you produce it artificially even if *before* the full time of pregnancy?

Yours truly,

Sittingbourne, April 8th, 1879. H. G. SUTTON.

THE DIFFERENTIATION OF THE RED CORPUSCLES OF THE BLOOD.

To the Editor of THE LANCET.

SIR,—I observe in your correspondents' column of October 19th, 1878, p. 771, a paragraph headed "Fine Microscopy," in which the following sentence occurs: "Dr. Jones also expressed his conviction of being able to distinguish between the blood of a negro and that of a white man, but reluctantly confessed that he could not 'speak positively with reference to the blood of the different races of mankind.'"

Will you allow me to state that a paper on "The Appearances presented by the Red Corpuscles of the Blood in various Races of Mankind" was presented by my friend Dr. Barnard Davis, F.R.S., to the Anthropological Institute, and published in their Transactions of the year 1871 or 1872, I am not now certain which. In this paper I gave some details of numerous observations made by myself on the appearances presented by the red corpuscles of the blood in English, Irish, Hindoos, Mahomedans from India, Chinese, negroes, and persons of coloured blood. Without being able to speak positively as to the differences between them, I can say that in the presence of my friend Dr. W. H. Pearse, now or lately of Plymouth, but then of the Trinidad Government Emigration Service, I distinguished in nine cases out of ten the blood of Hindoos from that of Mahomedans who had arrived from India by the same ship. I was mentioning to Dr. Pearse the observations I had made, and, as he seemed incredulous, we went down together to the Emigration Depôt at Trinidad, where he selected the cases, and I examined the blood, and announced the race from which it came. I have been for ten or eleven years making observations on the physiology and pathology of the blood, and I enclose a copy of a paper which fortunately has been republished in the Transactions of the New Zealand Institute, and which I sent to your and other medical journals when it was first published. I have never seen any notice of it, although it contains facts which surely must be of some importance as to the mode of growth and development of the red corpuscles. Since it was published I have succeeded in growing red-coloured discoid bodies, exactly resembling the red corpuscles of mammalia, from every specimen of nucleated red corpuscle (including those of fishes) which I have experimented on. I sent home a paper on Cohnheim's Wandering Leucocytes in April last, in which I showed that the so-called wanderers could be produced in parts of the bodies of cold-blooded animals entirely separated from the circulation, as, e. g., in fragments of tadpoles' tails and (amputated) feet. I have since in further experiments produced all the phenomena of the first stage of peritonitis in detached portions of the peritoneum, kept at the temperature of the human body in a suitable nutrient medium. These experiments I should be glad to continue if there were the least encouragement held out to workers in the colonies; but it seems to me that there is a clique of scientific men in London who look upon all work not carried on in a physiological laboratory as worthless, and will not take the trouble to notice it.

Excuse this growl from the antipodes. It is the first and last you will be troubled with from, your obedient servant,

R. H. BAKEWELL, M.D., Surgeon,
Superintendent of the Ross Hospital.

Ross, Westland, N.Z., Feb. 1879.

"NEW Cases of Filarious Disease," by *Dr. Bancroft*, of Brisbane, shall appear shortly.

Æsculapius.—A medical man is under no legal obligation to attend a governess in his family without charge.

QUALIFICATION FOR MEDICAL OFFICER OF HEALTH FOR SOUTHWARK.

To the Editor of THE LANCET.

SIR,—As senior physician to the Surrey Dispensary for a great many years, well acquainted with all the poorer districts of Southwark and Lambeth, and holding the B.A. and M.B. degrees of the University of London, I considered myself an eligible candidate for the appointment of medical officer of health, vacant by the death of Dr. Bateson, and asked one or two friends on the vestry to support me, when suddenly a resolution was passed that candidates "must possess the degree of Doctor of Medicine"! Now, it is well known that M.D., *per se*, may mean almost anything, and that it is no guarantee for high qualifications; in fact, that the M.B. of London is at least as good a degree as a Scotch M.D. obtained many years ago. I do not suppose vestrymen are aware of this; but they might have consulted a medical man before passing a resolution which was so absurd and unnecessary. I have not a word to say against any of the candidates or their qualifications; but I do complain of a resolution which excludes others who are equally qualified for the post, and which excludes one gentleman who had done the duty for a long time, and given great satisfaction. This gentleman's friends actually voted for the very resolution which excluded their candidate, not knowing what they were about, not quite understanding what "Doctor of Medicine" signified, or thinking their candidate possessed the qualification! Surely the words "a registered medical practitioner" were sufficient without introducing a title so vague and misleading as that of "Doctor of Medicine." It is one more instance of the folly of non-medical men acting in medical matters without medical advice.

I am, Sir, yours truly,

DANIEL HOOPER, B.A. and M.B. Lond.,
Senior Physician to the Surrey Dispensary.

Trinity-square, S.E., April 5th, 1879.

*** We quite agree with our correspondent that to make the possession of a Doctorate of Medicine a *sine qua non* for the office of medical officer of health for Southwark was highly unreasonable. Such a degree is obtainable on the most various terms, and on terms which may imply no special knowledge of sanitary medicine.—ED. L.

LITHOTOMY FOR REMOVAL OF A PORTION OF A SILVER CATHETER.

To the Editor of THE LANCET.

SIR,—Happening to notice Mr. Bryant's remark on Mr. Christopher Heath's case of lithotomy for removal of a portion of a silver catheter, that he had never heard of a similar case, I think it worth while to mention that in 1860, whilst practising at Cromer, Norfolk, a case precisely like it came under my care. My patient was a hale old man of seventy-nine, who for fifteen years had passed a catheter on account of retention of urine from an enlarged prostate. Having broken his instrument, he soldered it himself, and the next time of using it left the end (three and a half inches in length) in his bladder. He did not send for me for several days, the following being the reason, as I found out from his diary, which I give *literatim* :—

"And I thought I should have to go under an operation and be murder'd like the poor man at the Hospitte that dide under the knife for the stone-cutting doctors to practise upon, and I thort I could have dissolved it and brought out all in small pieces."

My patient lived twenty-five miles from any hospital or railway, and I consequently had to operate literally by candlelight in a small room in a cottage. Through inefficient nursing, the old man was allowed to get up and walk about on the third day after the operation, and again on the fourth. Peritonitis ensued, and he died on the eleventh day after the operation—that of lateral lithotomy.—I am, Sir, yours &c.,

Newport, Essex, April 9th, 1879. HENRY J. BUCK.

Lichen.—The Atlas mentioned is by Neligan, and is published by Fannin and Co., of Dublin.

Mr. Plumbe.—We have placed the matter in the hands of our commissioner.

WILLIAM INGRAM COBBIN.

To the Editor of THE LANCET.

SIR,—Allow me to correct a slight error in to-day's LANCET. The name of the surgeon killed at the Cape was not Coppin, but William Ingram Cobbin. Few University College men of 1872-77 but must have felt a pang of regret at the announcement of his death in the morning papers of the 10th instant, for all must remember his genial face and frank cheeriness of manner; whilst those who enjoyed his personal friendship know what an honest and true-hearted gentleman has added his name to the long list of those of our profession who have lost their lives in the faithful performance of their duty.—Yours truly,

Tenbury Wells, Worcestershire, April 12th, 1879. EDWIN DENING.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Buzzard, London; Dr. Murchison, London; Mr. Teevan, London; Dr. B. Meadows; Dr. Farquharson, London; Mr. Berkeley Hill; Mr. Murrell; Mr. G. Jameson; Dr. Adams, Lanark; Surgeon-Major White, Meerut; Mr. Dougall, Edinburgh; Dr. Kavanagh, London; Mr. McKenzie, Glasgow; Dr. Maclean, Southampton; Mr. J. E. Ingpen; Dr. Liddle; Mr. J. F. Evans; Dr. Wallace, Greenock; Mr. Tomlinson, Maldon; Mr. Nelson, London; Mr. Mahony, London; Dr. Thomas, Glasgow; Messrs. Clarke and Co., York; Mr. Cooper, Macclesfield; Dr. Massey, Nottingham; Mr. Claremont, Sheffield; Dr. Kartulis, Alexandria; Mr. Buck, Newport; Dr. Dillon, Listowel; Dr. Turnie, Landport; Mrs. Watkins, Nailsworth; Mr. H. A. Smith, Derby; Mr. W. Austen, London; Mr. Jebb, London; Dr. Patterson, Glasgow; Dr. Manley, East Rudham; Mr. Bell; Dr. Renshaw, Sale; Mr. Billington, Wimborne; Mr. Crozhur; Mr. Walker; Mr. Lucas; Mr. Spranger; Dr. Culpin; Mr. Murray; Mr. E. Davies; Mr. Thomson, South Yarrow; Mr. Sceales; Mr. Scott; Mr. Wheeler; Dr. Hamilton, Washington; Mr. Reddrop; Mr. Hawkes; Dr. Gowan, Anston; Mr. Brett; Mr. Skeedy; Mr. Hunt, Wolverhampton; Mr. Herbert; Dr. Emmerson; Dr. Leeson, Richmond; Dr. Barker; Dr. Peterkin, Glasgow; Dr. Milliman, London, Ontario; Capt. Bisson; M. Decroix; Mrs. Schmid; Dr. Cragie; Mr. Blythe; Mrs. Kavanagh; Mr. Banks; Mr. Brock, Edinburgh; Dr. Mackenzie, Edinburgh; Mr. Fitzgerald; The Consulate of St. Thomas, W.I.; Die Quellen Commission; M.B.; Royal Institution of Great Britain: The Registrar-General of Edinburgh; Visiting Physician; C. T., Petersfield; Analysis; Proprius; Anti-Humbug; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Hopkins, Bath; Mr. Stuart, Hastings; Mr. Whitehead; Mr. Harnet; Mr. Harrison; Mr. Evans; Dr. Oliver; Mr. Robson, South Shields; Mr. Alfred; Mr. Bryan; Mr. J. F. Jones; Dr. Brady, Derby; Mr. Watkins; Mr. Barnett; Miss Hutchinson; Mr. Bull; Mr. Turner, Macclesfield; Mr. Hower; Mr. Milne; Dr. Trimnell, Bay of Islands; Mr. Scott, Halifax; Mr. Williams; Mr. Maw, Bradford; Mr. Griffiths; Mr. Ivens, Kidderminster; Mr. Male, London; Mr. Somerville, Edinburgh; Mr. Bedford, Sheffield; Dr. Blake, Queenstown; Mr. Boys, Bristol; Mr. Allen, London; Medicus, No. 7; H. W., Leeds; M.D.; B. A.; Amicus; Edin.; U. M.; Alpha, Glasgow; Medicus, Scarborough; B. B., Oxford; M. L. T., Luton; Sigma; A. Z., Hindley; Galen; Chirurgicus; R. Y.; Ferrum; J. J. H.; H. L., Wimbledon; K. L. M.; Omega; J. W.; L. A. C., Sheffield; A. B., Leeds; Xema; A. B., Blackheath; Beta; M. A.

Church of England Temperance Chronicle, Echo, Buckingham Advertiser, Sydney Morning Herald, Manx Sun, Holborn Guardian, Derbyshire Advertiser, Cornishman, Blackpool Herald, Bridport News, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, April 17th, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apr. 11	30·13	E.	32	36	73	47	31	0·04	Overcast
,, 12	29·96	N.	32	36	..	43	30	..	Overcast
,, 13	29·67	W.	34	38	70	46	33	0·36	Cloudy
,, 14	29·58	S.E.	36	39	61	46	33	..	Overcast
,, 15	29·51	S.E.	41	42	83	56	34	0·20	Overcast
,, 16	29·51	N.E.	37	38	..	45	37	0·32	Raining
,, 17	29·64	W.	40	42	..	52	34	0·03	Cloudy

Medical Diary for the ensuing Week.

Monday, April 21.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. G. C. Coles will exhibit some Improved Temperature Charts.—Dr. Routh, "On the Employment of a New Powder for Antiseptic and Preservative Purposes."—Dr. Churton (of Leeds), "On the Treatment of certain phases and results of Typhoid Fever."—Dr. Cockle: Clinical Cases.

Tuesday, April 22.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. Ernst Pauer, "On Schubert, Mendelssohn, and Schumann" (with Musical Illustrations.)
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Adjourned Discussion on the Report of the Committee on Croup and Diphtheria.

Wednesday, April 23.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
HUNTERIAN SOCIETY.—8 P.M. Dr. Warner, "On Headache in Children."

Thursday, April 24.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Professor Dewar, "On Dissociation."

Friday, April 25.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Mr. Adolf Schulze, "On a Method of Resolving the finest-lined Diatomaceous Tests."—Mr. A. D. Michael, "On the Reproductive System of certain Acarina."
ROYAL INSTITUTION.—9 P.M. Mr. Francis Galton, "On Generic Images."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. Semon, "On the Question of Tracheotomy in Bilateral Paralysis of the Posterior Crico-arytenoid Muscles" (Patient to be exhibited).—Dr. Tilbury Fox, "On a Case of Lichen Scrophulosorum."—Mr. Morrant Baker: "Removal by Operation of a large Rodent Ulcer of the Scalp."—Mr. Bryant: "A Case in which a Biliary Calculus was removed by Operation from the Gall-bladder, and a Cure resulted."

Saturday, April 26.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. H. H. Statham, "On the Leading Styles of Architecture Historically and Æsthetically Considered."

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